
Welcome to Introductory Biology (5 units) 4 hours lecture/3 hours lab

Instructor: Susmita Sengupta PhD

Office Hours: M W: 2:30-3:00 PM at S52 or by appointment

Lecture :MLC: 103 M/W 6:30 PM - 8:20 PM

Lab:S51: M or W 3:30 PM - 6:20 pm

email: senguptasusmita@deanza.edu (please put BIO10 in subject box of emails)

Website: <https://sites.google.com/site/biologythewonderoflife/home>

I.Contact Information:

I.Catalog Description: An introduction to biology as a branch of the biological sciences and to its basic unifying principles, with selected application to the scientific method, evolutionary concepts, genetic modification, biotechnology, ecology, ecological crises and human impacts.UC/CSU

Advisory: English Writing 100B, and Reading 100 (or Language Arts 100) or ESL 24 and 72

II. Expanded Description: Content and Form

A.Analyze the scientific method as an indispensable tool of investigation.

- 1.Formulate and solve problems utilizing the scientific method, including hypothesis development, prediction, and experimentation.
- 2.Evaluate the terms "hypothesis" and "theory" in common and scientific language.

B.Evaluate the characteristics of life

- 1.Compare and discuss the basic properties shared by all living things: cellular organization, metabolism, homeostasis, growth and reproduction, and heredity.
- 2.Examine levels of biological organization and the hierarchy of complexity demonstrated by organisms of the living world.

C.Analyze the molecular structure and function of the cell, its organelles and the coordination of cellular activities and processes in the organism.

- 1.Discriminate between the structure and the evolutionary history of Eukaryotic and Prokaryotic life forms and the kingdoms of life associated with these domains.
- 2.Compare and contrast the basic molecules of life: proteins, carbohydrates, lipids, and Nucleic acids
- 3.Evaluate basic organelles of the cell and describe their role in cell processes such as photosynthesis, cell respiration, cell transport, cell division.
- 4.Compare prokaryotic and eukaryotic cells and their evolutionary history.
- 5.Examine some of the specific human health problems related to abnormalities of cell structure or biochemistry (e.g., sickle cell anemia, Tay Sachs, cystic fibrosis)

D.Summarize the processes of cellular and human reproduction

- 1.Compare and contrast mitosis and meiosis, the phases and subphases of the cell cycle and the role these processes play in reproduction, growth and cell repair.
- 2.Appraise genetics and the transmission of genes from generation to generation, distinguishing different patterns of inheritance and examining molecular genetics.
- 3.Examine the consequences of errors that may occur during mitotic or meiotic cell divisions including: silent mutations, Down Syndrome, Turner Syndrome, and various forms of cancer.

E.Evaluate the scientific evidence supporting the theory of evolution.

- 1.Compare and contrast scientific evidence such as the fossil record, the molecular record, the anatomical record including homologous and analogous structures.
- 2.Analyze natural selection, the process that has led to the diversification of life forms and the development of adaptations of organisms to their environment and their interdependent relationships
- 3.Assess evidence that human activities result in selection on other species (e.g., antibiotic resistance in bacteria, pesticide resistance in insects, introduced species, and artificial selection)

F. Appraise and analyze the components and interrelationships of communities, ecosystems and the biosphere.

1. Diagram and examine trophic pyramids, energy pyramids, food chains and food webs.
2. Analyze the flow of energy and cycling of materials in ecosystems
3. Compare and contrast the earth's terrestrial and aquatic ecosystems including biomes and plant communities such as: the desert, tropical rain forest, foothill woodland, riparian, chaparral, redwood, marsh and estuary.

G. Assess the impacts of human activities on the biosphere

1. Examine and discuss the causes and impacts of global climate change, deforestation, marine fisheries depletion, in historical and current perspective.
2. Evaluate the evolution of human ecology (from hunter/gatherers, pastoralists, to agriculturalists and to more modern industrialists) and discuss its impact on the earth.
3. Estimate the environmental consequences of human inaction and propose changes that may reduce the rate of global climate change.

H. Inventory the historical roles and contributions of pioneers of scientific research.

1. Assess the work and research results of leading biologists over time, such as Darwin, Gould and Eldredge, McClintock, Watson and Crick, and Franklin.
2. Examine scientific contributions of physicians and scientists in various cultural groups throughout history.

III. Instruction:

Lecture: Lecture is designed to introduce you to the information covered during the course. New concepts and vocabulary will be introduced via lectures slides and videos and active learning through activities. To facilitate your learning, **please read the appropriate textbook chapter PRIOR to attending the class when the material is covered.** Lecture outlines will be available to print from the course website. These outlines are optional, but are helpful.

IMPORTANT: You are responsible for printing these outlines (the instructor does not print copies of lecture outlines for students).

Laboratory: During laboratory, you will carry out experiments or exercises; observe demonstrations, view videos and slides, and complete work sheets. During lab you must follow all safety rules and participate. Makeup labs will not be given. Complete the lab worksheets and write lab reflection of each lab and turn them in on the days they are due.

IV. COURSE REQUIREMENTS <http://books.deanza.edu/CourseMaterials.aspx>

Materials available at the bookstore.

A. Suggested Textbook:

Campbell Essential Biology

A) Eric J. Simon, Jane B. Reece Jean L. Dickey, ISBN-9780321652898 4th Edn 2010.

B) Lab Manual for BIO10 Fall 2014 by Judy Cuff-Alvarado. (only sold in bookstore)

1. Ring Binder(s) for organization of your handouts and other assignments
2. Spiral note books for taking down notes and maintaining vocabulary
3. Scantron forms 882-E
4. Sharpened #2 pencil for labs and exams.
5. 4"x 6" Index cards

V. Study Aids: You are strongly encouraged to

- Use the my office hours in case you have questions.
- Use the glossaries at the back of your text to become more familiar with vocabulary
- Keep the handouts organized by date and subject matter for easy reference.

VI. Each student is required to:

1. Arrive to class on time, and do not leave early.

2. Attend all course lectures. A sign in sheet will be posted at each class meeting. Students are expected to sign next to their name as proof of attendance. Regular attendance and participation ensures your success in the class.
3. Attend and participate in all sectional laboratory sessions.
4. Read and become familiar with material in all assigned readings (see **Lecture Schedule**)
5. Participate in four lecture examinations and complete assignments by the day they are due.
6. Conduct himself/herself in a manner courteous to the instructors, and fellow students in both the lecture room and the laboratory.
7. Accept and abide by all other parts and provisions of this syllabus.
8. Accept and abide by all sections of the Laboratory Safety Agreement.
9. Please **turn off your cellular telephone before entering class**.
10. No electronic dictionaries or electronic devices are allowed during the exam.

VII. CLASS PARTICIPATION:

Points can be earned for **regular** attendance in class and doing class activities, being on time, being prepared, having your lab packet, showing interest, appropriate communication with the instructor via email, making appropriate use of office hours, and by participating in discussions.

VIII. ATTENDANCE AND THE ADD/DROP POLICY:

- Any student who fails to show up on first and the second instruction days (unless a reasonable excuse is given with proper excuse is given in time through communication with the Instructor before the commencement of the session), may be dropped as per college policy.
- If space is available students will be added based on priority registration. Students with add codes are reminded that failure to add within the allotted registration period will result in them being dropped.
- All students are required to **attend every class, arrive on time, and stay until the end of class**. For purposes of emergency or illness, you may miss up to 2 lectures and lab sessions. Attendance will be accounted for by sign-in sheets. On each day of lecture or lab you will be responsible for **'signing in'**. In extended absences without notice you may be dropped.
- **PLEASE NOTE THE STUDENT is responsible for any announcements, the content covered during their absence, and obtaining any handouts from the course website.**
- **Remember, participation is a key to succeed in the class, and you can't participate if you don't attend. All absences must be officially documented [e.g. doctor's note] or be excused by the Instructor ahead of time.**
- In case of an extended absence, the student should write a letter of explanation addressed to the Instructor, and in case of an emergency, whereby the student is out of town or state.
- If you decide to drop the class, **it is your responsibility to drop the class officially**, do not rely on me to do that for you. Otherwise you will receive a letter grade.
- **Punctuality is expected from you.** We have to cover a lot of complex material and if you are late it would be difficult for you to understand and you may feel 'lost'.

IX. EXAMINATIONS AND GRADES:

- ❖ There will be **four** lecture exams (three mid-terms and one final). All exams will cover the chapters discussed in class during the intermittent period. Questions (multiple choice, matching and short written paragraphs) will include definitions / use of terms, concepts from assigned chapters in the text, lecture notes and info from films / videos shown in the class.

- ❖ If you come late to an exam, you will not get any extra time! You will be asked to turn in your paper at the same time as everyone else.
- ❖ **NO early or LATE Exam please! Do NOT MISS EXAMS.** If a genuine emergency requires that you miss course work, you must provide me with appropriate written documentation [e.g. Doctor's certificate etc.].
- ❖ **Keep the graded material that is returned as your own record. Insert your grades in the grade tracker to know whether you have completed assignments and how you are doing in class.**
- ❖ **THERE IS ABSOLUTELY NO WAY TO MAKE UP THE FINAL EXAM. Please remember THE EXAM WILL BE HELD ON THE DAY AND DATE SPECIFIED.**
- ❖ Make-up exams may have essay type questions. **Please remember you can only make-up one lecture exam.**
- ❖ You are required to turn in homework assignments in the dates they are due. You will be penalized if you fail to comply. It will not be accepted after the next meeting.

X. GRADING POLICY:

Lecture Exams: 4 (100 pts each)	= 300 (46.15%)(lowest may be dropped)
Lab Exams (2)	= 150 (23.07%)
Homework / Assignment /Case study	= 150 (15.38%)
Group case study/ presentation	= 25
Participation	= 25 (3.84%)
Extra credit	= 20
Total:	= 650

The total points and absolute number of assignments may change over the course .

Grading Scale: A student's overall grade is determined by adding together all points accumulated (Both lecture and lab assignments) during the semester and dividing by the *total points possible* in the class x 100.

Grades will be assigned based on the following scale:

90% and up of total points in class	=A (Excellent)
80- <90 % of total points in class	= B (Good)
70- <80 % of total points in class	= C (Satisfactory)
58- <70 % of total points in class	= D (Pass)
<58 %	= F (not desirable)

XI. MISSED EXAMS AND ASSIGNMENTS.

You are expected to take all exams at the times and dates specified. Should you miss any lecture exam due to extenuating circumstances, you may be allowed to complete a make-up for the missed exams. Make sure to let me know prior *to the scheduled exam* why you cannot take the exam in writing.

XII. INCOMPLETE GRADE

An Incomplete (I) may be given if circumstances are warranted following the College Policy. An "Incomplete" is not a substitute grade for a "D", "F", or "W". Refer to the college policy on 'Incomplete' grades.

FINAL EXAMS WILL BE AS PER SCHEDULE - NO EARLY OR LATE FINAL PLEASE.

XIII. PROFESSIONALISM [Refer: <http://bhs.deanza.edu/StudentHandbook.pdf>.]

1. The instructor will treat you as adults and expects that you act as adults. Respect and consideration for your classmates during lectures, labs, and exams will be expected.
2. **CHEATING, PLAGIARISM, DISHONESTY, ETC:** None of these behaviors, nor the appearance of these behaviors, will be tolerated in BHES Division. Please refer to the De Anza College Catalog and the Division's Student Accountability for further details on specific examples.

3. The following behaviors are examples of cheating/plagiarism (this list is not exhaustive):
- ✓ Using unauthorized notes, books, or other prohibited materials while taking an exam.
 - ✓ Open cheating on an examination [such as copying another student's work]
 - ✓ Turning in individual homework that is identical to another student's.
 - ✓ Copying from any source (books, journals, Internet) without citing the source.
 - ✓ Passing off any work as your own that is not.
 - ✓ Any other conduct intended to obtain academic credit fraudulently or dishonestly.

All instances of plagiarism will be reported to the Division Dean for appropriate action as per the College Policy.

XIV. WRITTEN ASSIGNMENTS: All written assignments should be preferably printed. The exceptions are your lab assignments. Please turn in ALL your work in a stapled, neat, legible format. Remember, I cannot grade an assignment if I cannot read.

XV. HELP!

If you should experience difficulty grasping the material presented in the course, be sure to see me **ASAP**. My office hour is 2:30-3:00 PM, MW at S52. Many times a few minutes can clear up many problems! If you are having trouble studying, than perhaps you need a few study hints! Come in for help during office hours. Send me an email, call my office, or whatever, I will be more than happy to try to clear things up.

XVI. ACCOMMODATION

I wish to make this course as accessible as possible to students who fall under the "*Americans with Disabilities Act*" that may affect any aspect of course assignments or participation. I encourage such students to communicate with me at the beginning of the course. Students must provide documentation before they are entitled to accommodations. You may contact the Disability Services and Programs for Students @ 408-864-8753] for assistance.