GENERAL BIOLOGY 1
SYLLABUS

Course Rubric and number: BIOL 1406
Semester with CNR: FALL 2012, CNR # 63633

Instructor contact information Dr. Deolu-Sobogun Suziat
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Office hours: Immediately after class

Course location/Times: Felix Morales Building, Eastside Center, Southeast College
Lecture: Monday: 2:30 PM – 5:30 PM, Room 314.
Lab.: Wednesday: 2:30 PM – 5:30 PM, Room 218
Course Semester credit Hours 4

Learning web: http://learning.hccs.edu/faculty
Biol. Lab. Study page: hccs.edu/biologylabs
www.khanacademy.org


COURSE DESCRIPTION:
This course will focus on the topics involving the biology and chemistry of the cell along with its organization in multicellular organisms. Additional discussion topics covered include biological processes, cellular morphology, metabolism, basic concepts of genetics and molecular biology. The primary objective of this course is to provide students the foundation and knowledge of life sciences.

COURSE STUDENT LEARNING OUTCOMES
Biology Program Student Learning Outcomes (PSLO):
Program SLO #1 -To recognize, identify, and describe the basic structures and functions associated with most life forms.
Program SLO #2 -To develop basic laboratory techniques appropriate to the field of Biology.
Program SLO #3 -To develop study skills and habits appropriate for pre-professional students interested in health-related fields.

Student Learning Outcomes (SLO):
The following Student Learning Outcomes with their associated assessment criteria are not meant to be all inclusive, and are meant to be used along with all other course learning outcomes and assessment devices, listed under Course Objectives, in the determination of the student's final course grade. Completion of the specific Student Learning Outcomes listed below, at any assessment grading level, does NOT and will NOT guarantee the student that final course grade at the end of the semester!
Bio 1406 SLO#1
The student will be able to recognize the basic structure and describe the function of eukaryotic cellular organelles and cell systems. 2
Given a DNA or RNA base sequence, the student will be able to deduce:

a. The sequence of the complementary DNA strand
b. The sequence of the complementary messenger RNA strand
c. Complementary codons and/or anticodons
d. The proper amino acid sequence in a peptide by using a supplied table of genetic code.

The student will be able to explain the synthesis and properties of

a. carbohydrates
b. lipids
c. proteins
d. nucleic acids

The student will be able to devise an experiment containing the correct experimental test points along with correct positive and negative controls.

The student will exhibit competence with bringing the brightfield microscope into focus.

The student will develop the habit of reliable attendance by being absent from class no more than four times per semester.

The student will demonstrate punctuality in the submission of class assignments on their due date.

1. To establish an understanding of the major historical events in biology and their impact on science.

2. To describe basic cell structure, biochemistry, metabolism, nutrition, reproduction, and genetics.

3. To demonstrate knowledge of the basic principles of cellular inheritance.

4. To demonstrate knowledge of the basic principles of molecular genetic technology.

5. To demonstrate skill in basic laboratory methodology, such as microscopy, and the careful analysis of laboratory data and results.

Class Semester Schedule is subject to change*

TOPICS TO BE COVERED
1. Exploring Life
2. The Chemical Context of Life
3. Water and the Fitness of the Environment
4. Carbon and the Molecular Diversity of Life
5. The Structure and Function of Macromolecules
6. A Tour of the Cell
7. Membrane Structure and Function
8. An Introduction to Metabolism
9. Cellular Respiration: Harvesting Chemical Energy
10. Photosynthesis
11. The Cell Cycle
12. Meiosis and Sexual Life Cycles
13. Mendel and the Gene Idea
14. The Chromosomal Basis of Inheritance
15. The Molecular Basis of Inheritance
16. From Gene to Protein
17. Regulation of gene expression
18. Viruses

LABORATORY EXERCISES
1. Compound Microscope
2. Chemicals: The Basis of Life
3. Biological Fluids
4. Biomolecules - Carbohydrates and Lipids
5. Biomolecules - Proteins and Nucleic Acids
6. Cells: Morphology
7. Enzymes- Biological Catalysts
8. Diffusion and Osmosis
9. Osmotic Relationships of Cells
10. Fermentation (may be run by demonstration)
11. Photosynthesis (may be run by demonstration)
12. Mitosis: Nuclear Division in Plant and Animal Cells
13. Meiosis: Gamete Production
14. Genetics: Mendelian Inheritance
15. Genetics: Human Heredity
16. Genetics: Statistical Analysis of Data (optional)
17. The Molecular Structure of DNA

*The topic schedule is subject to change

EXAM SCHEDULE:
1ST LECTURE. EXAM  --------- Sept. 23th
2ND LECTURE. EXAM  --------- Oct.28nd
3RD LECTURE EXAM  --------- Nov. 18th
4th LECTURE EXAM  ----------- Nov 26th
1ST LAB. EXAM  --------- Oct. 9th
2ND LAB. EXAM  --------- Dec. 2nd
STATE WIDE COMPREHENSIVE FINAL EXAM  --------- Dec.9th

LAB STRUCTURE: Each student is expected to participate and complete the lab during the lab meeting time while also having the lab reports along with the appropriate data sheet(s) completed and ready to turn in on or before the next lab meeting. The lab safety release form must be signed during the 1st lab session.

LECTURE STRUCTURE: 4 lecture and 2 Lab. exams will be given based on the topics that were conducted during lecture meeting times, two of the exam will be online while two will be in the classroom, the lowest grade will be drop at the end of the semester, there will not be make up for lecture exams, the two lab. Exams will be conducted in class. At the discretion of the instructor, pop
quizzes will be given at the beginning of the class; students will be given approximately 15 minutes to complete the quiz. The lowest grade from the lecture exams will be dropped at the end of the semester, any student that missed a lecture exam will use the missed exam as the drop grade.

**GRADING COMPUTATION:**
Lecture Exams: 40%
Comprehensive State Wide Final Exam: 15%
Lab Exams: 15%
Lab Reports: 15%
Lab participation: 5%
Quiz: 10%

Below is the letter grade designation:
A: 100 – 90
B: 89 – 80
C: 79 – 70
D: 69 – 60
F: Below 60

**Tips for Success:**
Success in this course depends solely on the individual student! The following are some strongly recommended tips for students:
• Understand and complete all elements within the syllabus.

  Everyone wants to do well in this class. I want you all to learn the material and succeed in the course. Here are some tips to help you on your way:
  ◦ **Attend every class.** It’s a great opportunity to work with other people, ask questions, and learn things that may not be covered well in the book or notes.
  ◦ **Ask questions!** If you aren’t getting something, I can guarantee you that other people in the class don’t get it either. You are not supposed to know everything when you get here—but if you don’t ask questions, you won’t know it when you leave either.
  ◦ **Find a Study Buddy, or better yet a study group.** Science is a group activity—and learning science is, too. Your studying will be much more productive if you do it with at least one other person. You can quiz each other, take turns explaining topics and ideas, and entertain one another as you work.
  ◦ **Don’t wait until the night before to study;** it will be overwhelming. Instead, go over the material after every class. This breaks it into manageable chunks—and you get to sleep the night before the test, too.
  ◦ **Make the study interactive.** Use flashcards, quiz a friend, or re-write parts of your notes from memory. Don't just stare at the information—you'll bore yourself to tears.

• Contact me if you have any questions regarding any aspect of the course you
do not understand. You can contact me during my office hour or through my email and I will respond to your question(s) within 24-48 hours, most of the time earlier especially during the week.

RULES AND REGULATIONS:
1. The listed textbook and lab manual are required for the course.
2. ATTENDANCE:
   a. Attend class regularly, be on time, and stay until the period ends, unless dismissed. Student will be given a 15 minutes grace to get to the class.
   b. Full attendance is required for lab sessions. Students with more than four (4) unexcused absences may result in administrative withdrawal. Students are responsible for everything covered during the absence, and it is the student’s responsibility to consult with the instructor for make-up exams.
   c. If you have an attendance issue, please notify me. Any student who wishes to drop the class must understand it is their responsibility and officially do so on or before the drop date.

   Failure to withdraw officially will result in a letter grade, not a “W” in this course.
3. Cell phones must be placed on silent or vibrate during class/lab meetings. No recording in the classroom except with my approval
4. Smoking is not allowed in the laboratory. No Eating or drinking is permitted except Water, however. Eating and drinking is prohibited in the lab.
5. Children or anyone not officially enrolled in this course are not allowed in the lecture/lab rooms.
6. Cheating/plagiarism is not tolerated. First infraction of cheating/plagiarism will result in a warning. The second infraction of cheating/plagiarism will result in a “zero” on the exam or other work involved. The third infraction will result in a letter grade “F” in the course. Cheating/plagiarism is defined as giving or receiving, offering or soliciting information, or using prepared material without permission or proper documentation. Please refer to the Houston Community College System policies within the most current Student Handbook.
EXAMS/QUIZZES/REPORTS: Exams will consist of multiple choice questions with possible fill-in-the-blank, diagrams, completion, definitions, matching, and/or essay questions based on the material covered in the lecture session and the text. The following are guidelines that will govern all exams:

• Students will not be allowed to leave the classroom before completing an exam.
• Students arriving late will not be allowed to take the exam if any student has completed the exam and left the classroom.
• The instructor holds the right to conduct timed exam.
• Students arriving late will not be given extra time to complete the exam.
• The lab exams and final exam are mandatory in order to pass the course.

   • Student can have an Incomplete ‘I’ only if the student miss one exam and the student is passing the class.
• Pop quizzes will be given at the discretion of the instructor the first 10 minutes of the lecture session. Each quiz will be over previous information or information that is to be covered on that lecture session day.

STUDENTS WITH DISABILITIES:
Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the appropriate HCC Disability Support Service (DSS) Counselor at the beginning of each semester. Faculty is
authorized to provide only the accommodations requested by the Disability Support Services Office

Students who are requesting special testing accommodations must first contact the appropriate (most convenient) DSS office for assistance:

**Disability Support Services Offices:**

System: 713.718.5165
Central: 713.718.6164 – also for Deaf and Hard of Hearing Services and Students Outside of the HCC District service areas.
Northwest: 713.718.5422
Northeast: 713.718.8420
Southeast: 713.718.7218
Southwest: 713.718.7909

After student accommodation letters have been approved by the DSS office and submitted to DE Counseling for processing, students will receive an email confirmation informing them of the Instructional Support Specialist assigned to their professor.

**Important Dates:**

August 27 Monday  Classes Begin
September 3 Monday  Offices Closed -Labor Day Holiday
**November 2 Friday  Last Day for Administrative/ Student Withdrawals- 4:30pm**
November 21 Wednesday  No Night Classes before Thanksgiving
November 22- 25 Thur- Sun  Offices Closed- Thanksgiving Holiday
December 9 Sunday  Instruction Ends
December 10-16 Mon- Sun  Final Examinations
December 16 Sunday  Semester Ends