

Professor name: I. Ruiz Garcia

Office location: NW-HCCS

Course title: Biology Non Science Majors I

Course number: B1308

Course Semester Credit Hours: 3 credit hours

Course goals: The goals of this course are to give basic information about biology and to learn about the aspects of biology that affect us daily.

Course description: This course is a general biology to students that need a basic knowledge about biology. We will study atoms, molecules, cells (prokaryotic and eukaryotic), viruses, prions, metabolism (anabolism, catabolism, aerobic, anaerobic, fermentation and Krebs cycle), photosynthesis, mitosis, meiosis, genetics, biotechnology, and evolution of populations. There are no laboratories in this course. The core curriculum course cannot be used in conjunction with 1406.

Completion of the specific course Student Learning Outcomes and/or any other information and assessment listed below does NOT and will NOT guarantee the student any specific final course grade at the end of the semester.

Course Student Learning Outcomes (CSLO):

- 1. Explain the different scientific terms of living organisms and study their interactions with the living and non-living environment for each of them.
- 2. Understand the properties of life and the concepts of living organisms (prokaryotic and eukaryotic) and non-living creatures (viruses and prions) including biological, chemical, physical, and through evolution (Darwin, natural selection, and more) and relate them to biotechnology.
- 3. At the scientific level comprehend all types of cells (prokaryotic and eukaryotic), molecules including macromolecules, how cells organize, communication between cells, cell division (mitosis and meiosis), energy transformations, and metabolism like glycolysis, fermentation, cellular respiration, and photosynthesis.
- 4. Give details of genetics in prokaryotic and eukaryotic cells, molecular structure of DNA and RNA, DNA to DNA (replication), DNA to RNA (transcription), protein synthesis (translation), and mutations.
- 5. Know Mendelian genetics in a way to carry out and elucidate genetics problems and proceed to understand genes and chromosomes from and after Mendel.
- 6. Identify the scientific method by asking a question, developing and testing hypothesis by experiments, collecting and writing organized reports and give a conclusion.
- 7. Expand critical thinking and differentiate between hypothesis, theory and law.

Learning Objectives:

- 1.1 Describe all living organisms and their interactions with the living and non-living surroundings including viruses, prions, and environments that are useful or unhelpful.
- 2.1 Properties of life and the ideas of livelihood organisms together with biological, chemical (atoms, molecules, and biochemistry), physical (thermodynamics ...), and evolution (before and after Darwin) and their relationship with biotechnology like DNA testing.
- 3.1 Prokaryotes and eukaryotes from unicellular to multicellular and thoughts like viruses, prions, molecules, macromolecules, cell organization and communication, mitosis, meiosis, energy formation like ATP, and metabolism (anabolism, catabolism, aerobic, anaerobic, glycolysis, fermentation, cellular respiration, and photosynthesis).
- 4.1 Genetics (prokaryotic and eukaryotic cells), DNA and RNA molecular structure, replication, transcription, translation and different types of mutations.
- 5.1 Mendel and after Mendel genetics and the ability to solve problems and be able to understand genes and chromosomes so that can be related to human characteristics and diseases.
- 6.1 The scientific method (question, hypothesis, develop an experiment, collect data, write a report and formulate a conclusion).
- 7.1 Increase critical thinking and make sure to comprehend the differences among hypothesis, theory, and law.

Core Curriculum Competencies:

- 1. Evaluate how this biology course relays to the individual environment and the personal aspirations in life.
- 2. Describe living and non-living creatures and if they are one or more cells, their molecules, cell arrangement, and relationship with the living and non-living environment, reproduction, respiration, and photosynthesis.
- 3. Give explanation of DNA, RNA, protein manufacture, genes, chromosomes, mutations, and evolution.
- 4. Resolve pre and post Mendelian genetics problems and communicate these ideas to friends and their families and relate this knowledge to different human characteristics, inheritance, mutations, and diseases.
- 5. Recapitulate present biotechnology, the impact in daily life of heredity, and evolution (before/after Darwin).
- 6. Connection between living (prokaryotic/eukaryotic) and non-living environment (viruses/prions and more).
- 7. Comprehend the scientific method and know the difference between a hypothesis, theory, and law.

Program Student Learning Outcomes (PSLOs):

1. Understand biological systems and evolutionary processes including all ranges of biological complexity, that includes atoms, molecules, genes, genetics (before and after Mendel), cells, and organisms (living: prokaryotic/eukaryotic and non-living: viruses/prions).
2. Integrate and comprehend scientific data by written, oral and/or visual communication. (This may include successful completion of a course-specific research project: term paper or a case study module).
3. Know the interactions of evolution starting with Darwin and after.
4. Apply principles of the scientific method to problems in biology in the collection, recording, quantitative measurement, analysis and reporting of scientific data. Relationships of living, non-living, evolution and heredity.

Prerequisite(s): College-level reading (or GUST 0342) and College-level writing (or take ENGL 0310/0349)

Students with Disabilities: Consult our Disability Counselor during the first week of this course or before so that an accommodation plan can be drawn up and implemented.

Academic Honesty: SCHOLASTIC DISHONESTY DURING EXAMINATIONS / ASSIGNMENTS:
The correct action will be promptly issued if dishonesty is suspected and a 0 (zero) will be entered for this test/assignment/term paper. Student(s) involved in scholastic dishonesty during examinations /assignments are advice to withdraw from the course or get an F in this class.

Grading Policy:

100% to 90% A

89% to 80% B

79% to 70% C

69% to 60% D

59% to 0% F

Total points: 1000: Tests and Assignments

Partial test I 100 points

Partial test II 100 points

Partial test III 100 points

Partial test IV 200 points

Assignment I 100 points

Assignment II 100 points

Assignment III 100 points

Assignment IV 100 points

Final tests **100 points (comprehensive district final test)**

As you can see in this class we will have 4 assignments and a total of 5 tests (4 partial tests and comprehensive district final test). **Each assignment** needs to be inside an **envelope 9 X 12 inches**.

Description for tests, assignments, optional term paper and plagiarism: There will be four partial tests (500 points total), four assignments (100 points each) and comprehensive district final test (100 points) for a total of 1000 points. An **optional term paper** will substitute the lowest grade in a partial test or assignment.

For each test you need pencil / rectangular scantron. Students can buy all scantrons for this class at any HCCS.

As mentioned before, there are a total of four assignments during the semester and each need to be inside an envelope 9 X 12 inches. Every assignment must be turned in as well before each partial test starts.

You must make sure to put your name-last name, B1308, and professor's last name on the answered test, answered scantron, assignment, and outside the 9X12 inches envelope before turning them to the proctor. Make sure you answer each partial test in the body of the test and in the scantron. Only the assignment needs to be inside the 9X12 inches envelope.

Remember assignments I, II, III, and IV are due with partial tests I, II, III and IV respectively (assignments I due before test I starts and so on). The assignments are most of the time drawings that the student must do himself/herself and are not information the student can print out.

Students are expected to participate in all scheduled examinations.

Plagiarism will not be accepted. No copies or printouts from any source will be accepted. Also students (one that let copy from and one or more who copy from) will get a zero (F) on test and/or homework. Student(s) involved in plagiarism are advice to withdraw from the course or get an F in this class.

Make-up Policies: If a student arrives late or is not there for a scheduled examination he/she will have to take an alternate examination. Examination makeup will be determined on an individual basis. Only a real emergency is the only reason not to attend an exam. An original document of such emergency will be required before the student takes the make-up.

Other Student Information:

Remember assignments are most of the time drawings the student has to do with his/her own hands. These assignments are not copies or printouts from the internet or another source.

Plagiarism will not be accepted: students (one that let copy from and one or more who copy from) will get a zero (F) on any test and/or assignment. If an assignment is something the student copy or prints from any source he/she get a zero (0). The student(s) involved in plagiarism are advice to withdraw from the course or get an F in this class.

STUDENT CONDUCT: Abusive language, disruptive behavior and not following any of these guidelines by a student(s) will not be tolerated. If such situation arises, the appropriate action will be taken. The student (s) not following these student conduct regulations are advice to withdraw from the course or get an F in this class.

For information about Americans with Disabilities Act (ADA), Campus Carry law, Title IX (rights about sex/gender discrimination) and Family Education Rights & Privacy Acts (FERPA) visit HCCS web pages.