Fall 2020
BIO 1108L 020, 021, 024, 025
Biology for Non-Science Majors Laboratory

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Office Hours: Tuesday 11:00 – 12:30; Wednesday 10:00 – 11:00; Thursday 11:00 – 12:30

Class meeting time and place: 020 W 8:00 am-9:50 am, online
021 W 11:00 am-12:50 pm, online
024 R 9:00 am-10:50 pm, online
025 R 12:30 pm-2:20 pm, online

Course Description:
Laboratory study of the fundamental concepts of Biology for non-science majors, including the origin of life, cell structure and function, growth and reproduction, genetics, evolution and ecology.

Number of credit hours: 1

Prerequisite: None
Co-requisite: BIO 1308

Program Learning Outcomes:
There is no specific program learning outcomes for the Biology major addressed in this course. It is a general education core curriculum course and/or a service course.

Texas Core Curriculum Objectives:
Texas Core Curriculum Objectives (CCO) addressed by this course are:

1. Students will demonstrate mastery of “critical thinking to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information”.
2. Students will demonstrate mastery of “communication to include effective development, interpretation and expression of ideas through written, oral and visual communication”.
3. Students will demonstrate mastery of “empirical and quantitative skills to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.”
4. Students will demonstrate mastery of “teamwork to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.”
Student Learning Outcomes:
Student performance will be evaluated by assignments, weekly quizzes and participation during laboratory exercises. The final lab grade is computed into the course as 1/3 of the course grade. Upon successful completion of Biology for non-Science Majors Lab:

1. Students will demonstrate skill in basic microscopy, production of temporary specimen mounts and observation of biological specimens. (CCO 1, 3)
2. Students will identify the four basic types of organic compounds, conduct experiments, do basic measurements and safely handles chemicals, including acids and bases. (CCO 1, 2, 3, 4)
3. Students will be able to differentiate between prokaryotic and eukaryotic cells, identify cell structures, including organelles, and describe the function of each in plant and animal cells. (CCO 1, 2, 3, 4)
4. Students will understand the mechanisms of cell membrane transport and the source of energy for the basic transport systems. (CCO 1, 2, 3, 4)
5. Students will understand the cell cycle, visually differentiate among the phases of mitosis and meiosis and explain the differences between the two processes. (CCO 1, 2, 3, 4)
6. Students will be able to predict their genotype for traits involving dominance, codominance and sex linkage, predict inheritance of traits using monohybrid crosses, and determine the genotype of individuals from a pedigree. (CCO 1, 2, 3, 4)
7. Students will be able to recognize the major cell types, tissues and organs of a flowering plant and discuss the function of each. (CCO 1, 3)
8. Students will understand the general characteristics of an enzyme including the effect of temperature, pH and concentration on enzymatic activity. (CCO 1, 2, 3, 4)
9. Students will observe experiments involving the two major pathways of photosynthesis to demonstrate the importance of light and carbon dioxide to the process. (CCO 1, 2, 3, 4)
10. Students will understand the modern biological classification system and apply it to identify selected lower organisms. (CCO 1, 2, 3)
11. Students will be able to apply ecological principles to the movement of matter and energy through the freshwater ecosystem of LaNana Bayou. (CCO 1, 2, 3, 4)
12. Students will be able to perform the protocol and calculations for estimating animal populations using a widely known technique. (CCO 1, 2, 3, 4)

Course Content:
- The microscope 1 laboratory period
- Organic molecules of the cell 1 laboratory period
- Cells 1 laboratory period
  - Prokaryotic
  - Eukaryotic
- Transport through the cell membrane 1 laboratory period
  - Passive systems
  - Active transport
Mitosis and cytokinesis  1 laboratory period
Meiosis and gametogenesis  1 laboratory period
Inheritance  1 laboratory period
Organization of the plant body  1 laboratory period
  § Cell types
  § Tissues
  § Stem
  § Root
  § Leaf
Enzyme activity  1 laboratory period
Photosynthesis  1 laboratory period
  § Light reactions
  § Calvin-Benson cycle
Biodiversity of lower organisms  1 laboratory period
  § Bacteria
  § Protista
Ecology of LaNana Bayou  1 laboratory period
Estimating animal populations  1 laboratory period

Text and Materials:

Course Requirements:
To complete Biology for non-science majors you must be enrolled in BIO 1308 & BIO 1108L in the same semester. Your laboratory grade is determined by daily assignments, daily quizzes and a performance grade. The performance grade is based upon your participation in each lab exercise. Your lecture instructor will calculate your course grade using your lab average as follows:
  lab avg. = 1/3
  lecture avg. = 2/3

Attendance Policy
A. All students are required to attend the scheduled lab zoom sessions.
B. Those students who have excused absences will be given make-up work.
C. Excused absences will be allowed for these reasons (university policy A-10):
  1. School trips and/or functions - arrangements with the lab coordinator for make-up must be made prior to absence.
  2. Death in the immediate family - a notice from the Office of Student Rights and Responsibilities may be sent to the lab coordinator.
  3. Too ill to attend class - a note from the physician must be emailed to the lab coordinator. (If you go to the school infirmary, be sure to pick up a form at the desk before you see a doctor or nurse, and have them initial the form when you see them.)
D. Only the lab coordinator may excuse a student's absence from lab; documentation must be presented through email prior to the date of the next scheduled lab exercise. YOU ARE RESPONSIBLE FOR PRESENTING DOCUMENTATION.
E. All make-ups will be in the form of a quiz that is ten questions long and will cover all work done in lab.
F. No make-ups are permitted after 3 absences, whether they are excused or unexcused. Additionally, ten points will be deducted from a student’s lab grade for every four absences. G. Students are responsible for all work missed. Notes, data, etc for missed labs may be obtained from the lab instructors or fellow students.

NOTE: Departmental policy prohibits the lab coordinator and instructors from returning phone calls to numbers outside Nacogdoches exchanges. Therefore, contact should be made by email or from local phones if you require a reply.

Grade determination

Your lab grade is determined by daily quizzes (45%), daily assignments (45%) and a performance grade (10%).

A. Quizzes, will consist of Five (5) questions. The questions will come from the exercise objectives, bold-faced terms, labeled figures, tables and safety instructions that apply to the current days exercise. The daily quiz is worth 100 points.
B. You will be taking your quizzes online through D2L. Quizzes will open on Monday at 8:00 am and Close Friday at 11:59 pm. You have a week of time to complete all quizzes these times will be set for the semester and will not be changed.
C. Each student is required to complete and turn in an individual lab assignment sheet to a drop box designated by your lab instructor. You will also have a week of time to turn in the assignments, Monday 8:00 am – Friday 11:59 pm. The assignment sheet is worth 100 points.
D. For minor spelling errors 2 points will be taken off.
E. To ensure that the lab runs efficiently, you will have ten (10) points taken off of your daily lab assignment grade for the following infractions:
   1. Failing to put your name on the document turned in to the drop box.
   2. Emailing your document instead of turning it in to the designated drop box.
F. During every lab period your lab instructor will evaluate your performance with regard to preparation, attitude, cooperation, participation in the exercise and effort. Your performance grade is worth 20 points.
G. Any grade appeal must be accompanied by your graded quizzes/assignments.
H. As per departmental policy, you are required to evaluate the lab. This online course assessment is administered near the end of the semester. If you have not completed the assessment by the deadline, one point will be deducted from your lab grade. You will be notified of the deadline by ITS.
I. Your lecture instructor will assign your course letter grade (lab avg. = 1/3, lecture avg. = 2/3). You will receive the same letter grade for the lecture and lab.
J. All lab work is to be done within the allotted time (between Monday 8:00 am – Friday 11:59 pm).
K. You may leave the lab session after completing the discussion with your lab instructor. Leaving the session early will result in a zero for all of the day’s grades.
## Course Calendar:

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Topic</th>
<th>Date</th>
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<tbody>
<tr>
<td>1</td>
<td>Introduction &amp; The Microscope (Zoom)</td>
<td>Week of August 24th</td>
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<td>2</td>
<td>Organic Molecules of the Cell</td>
<td>Week of August 31st</td>
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<td>3</td>
<td>Cells</td>
<td>Week of September 7th</td>
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<td>4</td>
<td>Molecular Movement and the Cell Membrane (Zoom)</td>
<td>Week of September 14th</td>
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<td>5</td>
<td>Mitosis and Cytokinesis</td>
<td>Week of September 21st</td>
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<td>6</td>
<td>Meiosis and Gametogenesis (Zoom)</td>
<td>Week of September 28th</td>
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<td>7</td>
<td>Inheritance</td>
<td>Week of October 5th</td>
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<td>8</td>
<td>Organization of the Flowering Plant Body (Zoom)</td>
<td>Week of October 12th</td>
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<td>9</td>
<td>Enzymes</td>
<td>Week of October 19th</td>
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<td>10</td>
<td>Photosynthesis</td>
<td>Week of October 26th</td>
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<td>11</td>
<td>Biological Diversity</td>
<td>Week of November 2nd</td>
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<td>12</td>
<td>Ecology</td>
<td>Week of November 9th</td>
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<tr>
<td>13</td>
<td>Estimating Animal Population Sizes (you need a calculator)</td>
<td>Week of November 16th</td>
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<td>14</td>
<td>Thanksgiving break</td>
<td>Week of November 21st</td>
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Academic Integrity (A-9.1)
Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

Definition of Academic Dishonesty
Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit.

Please read the complete policy at http://www.sfasu.edu/policies/academic_integrity.asp

Withheld Grades Semester Grades Policy (A-54)
Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.

The circumstances precipitating the request must have occurred after the last day in which a student could withdraw from a course. Students requesting a WH must be passing the course with a minimum projected grade of C.

Students with Disabilities
To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/.

Acceptable Student Behavior
Classroom behavior should not interfere with the instructor's ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy D-34.1). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other