Fall 2020
BIO 1108L Sections 22 & 23
Biology for Non-Science Majors Laboratory

Instructor: Mrs. Angie Nicholas, M.S.
Department: Biology
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Office: STEM 414
Office Hours: MW 1:00pm-2:00pm, T 1:00pm-3:00pm, Th 11:00am-12noon, or by appointment

Class meeting time and place:
22 W 2:00 pm-3:50 pm, online
23 W 4:00 pm-5:50 pm, online

*Please be advised if you are a parent or caregiver of children that anyone within your camera space on Zoom classes will be recorded. If you need to, you may turn off your camera and/or microphone to take care of children then come back when you are able. Please consider disclosing your caregiver status to me. I maintain high expectations for all students and am willing to problem-solve with you in a way that will help you feel supported as you balance your student-caregiver role.

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

Text and Materials:

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:
o The microscope 1 laboratory period
o Organic molecules of the cell 1 laboratory period
o Cells 1 laboratory period
o Transport through the cell membrane 1 laboratory period
o Mitosis and cytokinesis 1 laboratory period
o Meiosis and gametogenesis 1 laboratory period
o Inheritance 1 laboratory period
o Organization of the plant body 1 laboratory period
o Enzyme activity 1 laboratory period
o Photosynthesis 1 laboratory period
o Biodiversity of lower organisms 1 laboratory period
o Ecology of LaNana Bayou 1 laboratory period
o Estimating animal populations 1 laboratory period

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. There are 6 required zoom lab sessions that you must attend. If you miss one of these required meetings and do not meet the criteria below for excused absences you will get a zero for your lab grade for that week even if you do the work.
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 clinic on campus, 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 final 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.
**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, introduction, and bold-faced terms that apply to the current day’s 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 5 class days to complete each quiz. Times for quizzes will be set for the semester and will not be changed. You have 1 attempt for each quiz.

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 have 5 class days 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 final 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.

L. How to calculate your lab grade: Each week’s quiz, assignment, and performance is worth 220 points, for a possible total of 2860 points for the entire semester. Add the number of points you have received on all quizzes, assignments, and performance grades and divide by 2860. Then multiply that number by 100 and you will have the percentage grade for the lab only. This number will be given to your lecture instructor for calculating your final grade for both lecture and lab.

These are the labs we will be doing each week. Highlighted labs have a required ZOOM meeting that you **must** attend. For all other labs the zoom meeting will be optional, but it is a great resource for asking questions and getting help with the assignment sheets.
<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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<tr>
<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</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</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</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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<td>13</td>
<td>Estimating Animal Population Sizes (bring 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