BIOLOGY 10L: Introduction to Life Science Lab
Spring 2017
Instructor: Alexander Shiglik
E-mail: alexander.shiglik@reedleycollege.edu
Lab #53368: Tuesday/Thursday 7:30-8:45 PM; LFS 11
Office Hours: By appointment only

I. COURSE DESCRIPTION
   A. Title: Biology 10L – Introduction to Life Science Lab
   B. Prerequisite or Co-requisite: Biology 10.
   C. Summary: This lab course is recommended for the non-biological science and pre-education majors. This is an introductory course using biological concepts. The organismal structure, function, inheritance, evolution, and ecology are covered. Field trips may be required. Not open to students with credit in Biology 3.
   D. Biology 10L is a 1 unit lab class.

II. COURSE CONTENT
  Student Learning Outcomes:
  Upon completion of this course, students will be able to:
   • Evaluate current scientific literature and examine how the scientific method is employed in biological research.
   • Identify levels of biological organization and apply these concepts to living systems.
      ○ By examining anatomical and physiological features.
      ○ By investigating chemical and energy relationships.
   • Assess human impacts on natural systems and critically evaluate solutions to environmental problems.
   • Explore the cellular basis of life.
   • Apply the principles of Mendelian genetics to evolutionary theory and human medicine.
   • Recognize the function of DNA and how its discovery has impacted modern science.
   • Classify the wide range of living organisms and identify the evolutionary mechanisms that have impacted this diversity.
   • Recognize the chemical basis of life.

Objectives:

In the process of completing this course, students will:

- compare and contrast Eukaryote and Prokaryote cell structure.
- recognize chemical elements, bonds and properties of water.
- compare anatomical and physiological features seen in the animal kingdom with emphasis on human body systems.
- calculate genetic probabilities based on the principles of Mendelian genetics.
- distinguish the processes of transcription and translation and identify their roles in protein synthesis.
- diagram plant life cycles and identify major plant adaptations.
- explain and compare the processes of photosynthesis and cellular respiration.
- demonstrate knowledge of evolutionary theory and identify the different mechanisms responsible for biological change.
- describe energy flow and nutrient cycling within an ecosystem.
- consider human impact on natural systems.
- relate principles of population ecology to the study of the global human population.
- read scientific literature and apply the steps of the scientific method to laboratory research.
- use the compound light microscope to examine cellular anatomy and reproduction.
- apply taxonomic classification in identifying animals through the use of a dichotomous key.

III. REQUIRED MATERIALS:

1. Reedley College Biology Handouts. This can be obtained in the school bookstore.

IV. ATTENDANCE:

You will be dropped if you fail to attend the first lab. You will also be dropped if you miss more than two labs.

V. TESTS AND EVALUATIONS:
  A. Grading

Description	Points Possible
16 Lab Assignments (15 pts. each)	240
4 Lab Quizzes (50 pts. each)	200
Approximate Total Points =	440

  B.   Grading scale:
90% = A   80% = B   70% = C   60% = D   59% and below = F

C.   *Quizzes* will include multiple choice questions, true/false and Matching questions. The information on the quizzes is taken from the labs we have performed in class. There are no make up quizzes.

VI. Other information:
   Drops: You have until half way through the semester to drop. If you elect to do so, be sure to drop yourself. Do not assume you have been automatically dropped. This is very important, as after the half way point a grade must be given, by state law, whether you attend class or not.

VII. Help:
   If you should have difficulty grasping the material presented during the course be sure to talk to your instructor at the first sign of trouble. Often, a few minutes can clear up many problems! If you are having trouble studying, perhaps you need a few study hints or a tutor at the Tutorial Center. Please go in for help!

   Success comes before work only in the dictionary. Overall, I hope you have a fun semester and learn Biology along the way. Good Luck.

VIII.   Academic Dishonesty
   Students at Reedley College are entitled to the best education that the college   can make available to them, and they, their instructors, and their fellow students share the responsibility to ensure this education is honestly attained. Because cheating, plagiarism, and collusion in dishonest activities erode the integrity of the college, each student is expected to exert an entire honest effort in all academic endeavors. Academic dishonesty in any form is a very serious offense and will incur serious consequences. See college catalog for details.

IX. Accommodations

If you have a verified need for an academic accommodation or material in alternate media (i.e. Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact me as soon as possible.

Lab Schedule
Biology 10L – Spring 2017

#53368 Tuesday/Thursday 7:30-8:45 PM LFS 11

Week 1: 1/10 & 1/12
Microscope safety/use
Letter e slides

Week 2: 1/17 & 1/19
Cell Lab

Week 3: 1/24 & 1/26
Mitosis Lab

Week 4: 1/31 & 2/2
Quiz #1
Chemistry Lab

Week 5: 2/7 & 2/9
Cellular Respiration

Week 6: 2/14 & 2/16
Protein Synthesis and DNA Extraction

Week 7: 2/21 & 2/23
Quiz #2
Genetics Worksheet

Week 8: 2/28 & 3/2
Dot Game

Week 9: 3/7 & 3/9
Disease Lab

Week 10: 3/14 & 3/16
TBD

Week 11: 3/21 & 3/23
Pollination Video

Week 12: 3/28 & 3/30
Animal Diversity Part I

Week 13: 4/4 & 4/6
Animal Diversity Part II
Quiz #3

Week 14: 4/18 & 4/20
Food Inc.

Week 15: 4/25 & 4/27
TBD

Week 16: 5/2 & 5/4
Demography Lab
Assign Carbon Footprint Worksheet

Week 17: 5/9 & 5/11
Carbon Footprint Lab
Quiz #4

---

*Schedule is tentative and may be modified with notification