

**BSc 1407 Introductory Biology II Laboratory Syllabus  
Spring 2013**

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**Office hours** MW 10:00 am– 11:00 am  
*Other hours available by appointment*

**Class time:** MT 1:00 pm –3:50 pm

**Required lab manual:**

**Laboratory Objectives:**

1. Students will continue learn to implement the scientific method.
2. Students will continue to learn to compile, organize, and interpret data using various statistical tools.
3. Students will become proficient at basic biological skills including use of biological tools.
4. Students will communicate the results of experiments through written lab reports and oral presentations.
5. Students will keep a laboratory notebook.
6. Students will learn to communicate using proper medical terminology.

**Objective 1: Students will learn to implement the scientific method.**

The scientific method provides the framework for any research project. Lab exercises will initially consist of a problem or scenario. Students will develop their own hypotheses. They will then develop and perform methods to address their hypotheses. They will collect and interpret their results, and they will write lab reports to describe and discuss their findings.

**Objective 2: Students will learn to compile, organize, and interpret data using various statistical tools.**

Data collection and analysis are fundamental skills for any biologist. As such, in the course of performing lab exercises students will collect data. The use of the computer lab will facilitate data analysis. Students will then interpret these results. Further, students will keep a detailed lab notebook throughout the lab course.

**Objective 3: Students will become proficient at basic biological skills including use of biological tools.**

Because freshman biology labs provide the foundation for upper level performance, each lab class will have a portion dedicated to learning basic biological techniques. These include, but are not limited to, microscopy, aseptic techniques, and dissection. Students will integrate these skills when performing experiments.

**Objective 4: Students will learn to communicate the results of experiments through**

**written lab reports and oral presentations.**

As a biologist it is vital to learn to communicate effectively, both verbally and by written means. Students will write lab reports with the following sections (Abstract, Introduction, Methods, Results, Discussion, Works cited) for every lab exercise. Students will also present the results of one their experiments via a PowerPoint presentation. Further, students will also write a comprehensive research report.

**Objective 5: Students will keep a laboratory notebook.**

The laboratory notebook is one of the most important aspects to conducting any kind of research. Therefore, students will be required to keep a well-organized laboratory notebook. All lab exercises, notes, handouts, and graded material should be kept in the notebook. Students are required to have their notebook at every lab class.

**Objective 6: Students will learn to communicate using proper medical terminology.**

Understanding how to use medical terminology correctly is vital for any student in the biological sciences as well as for those pursuing a career in the health sciences. Because of this, students will be provided a list of common medical terms. Quizzes will be given at the beginning of every lab class over these terms, and understanding of terminology will also be assessed on the midterm and final exam.

**Grading:**

Attendance 10%

Notebook (notebook check 1 = 50%, final check = 50%) 10%

Terminology quizzes 10%

Weekly lab reports 15%

Research paper 15%

Presentation 10%

Midterm exam 15%

Final exam 15%

100%

*Please take your lab grade seriously – it is worth 25% of your overall grade in lecture.*

**Attendance:**

Attendance is MANDATORY at all laboratories and will be taken at the beginning of every lab session by the instructor. Makeup work will be arranged only in the event of an EXCUSED absence (as defined by the Student's Guidebook or Undergraduate Catalog). Students are expected to arrive for lab on time; if students arrive after attendance has been taken they will be given a 70 for their daily Attendance grade. **It is the student's job to inform the instructor that they have arrived late; if they do not, a daily Attendance grade of zero will be recorded and the student will be considered as having an unexcused absence.** Any unexcused absences will result in a grade of zero for any lab skills performed or for all work pertaining to that lab class. If you have any questions please consult your instructor.

**Note:** Due to University holidays, some lab classes may have to be rescheduled. Students are responsible for all work done in make-up labs. Failure to attend a make-up lab will result in grades of zero for Attendance and all work relating to that lab.

**Students wishing to attend a different lab section must obtain written permission from the lab instructor – no exceptions! Students attending a lab section other than the one they are enrolled in without written permission will receive zeroes for that week's lab work.**

#### **Notebook:**

The laboratory notebook should be brought to every lab class. The notebook should be organized and should contain all lab class materials. One unannounced notebook check will occur during the semester. Students without their notebook will receive a zero. At the end of the semester an announced final notebook check will occur.

#### **Terminology quizzes:**

Quizzes will be given at the beginning of every lab class over the list of provided medical terms. Each quiz will consist of approximately ten medical terms.

#### **Weekly lab reports:**

Weekly lab reports will be completed after performing the associated laboratory exercise. The weekly lab reports are due at the beginning of the next lab class – NO EXCEPTIONS. Turn in your lab report, along with any other lab materials, stapled together. Students will each compose their own unique lab reports; **any lab reports showing evidence of copying or plagiarism will be given a grade of zero.** The lab report must contain the following: Introduction, Methods, Results, Discussion, and Works Cited. All lab reports must be type-written with correct grammar and spelling. Failure to comply with this will result in points being deducted from your lab report grade. All typed work must be in the format listed below; failure to comply with the format will result in points being deducted. Formatting instructions for lab reports are found at [www.tamu-commerce.edu/biology/bcochran/](http://www.tamu-commerce.edu/biology/bcochran/).

- 12 point Times New Roman font
- 1 inch margins
- Double spaced
- Please properly cite all references on a separate page at the back of your paper.

**Research paper:**

Students will write a research paper based upon the comparative vertebrate dissection lab, due at the end of the semester. Research paper guidelines will be provided with the lab exercise. Failure to adhere the guidelines will result in a loss of points on the paper. **Any papers showing evidence of copying or plagiarism will be given a grade of zero.**

**Presentations:**

Each student will create and present to the class a PowerPoint presentation over a lab from this semester. The presentation must contain the following: Introduction, Methods, Results, Discussion, and Works Cited. Guidelines for the presentation will be provided. **Any evidence of plagiarism will result in a grade of zero the presentation.**

**Exams:**

Students will take a midterm and final exam. The midterm will consist of a laboratory practical and a written multiple choice exam; the final exam will be a comprehensive multiple choice exam.

**Obligatory Statements:**

Plagiarism is a criminal activity. You must cite all sources of information. Copying of material, whether, whether parts of sentences, whole sentences, paragraphs, or entire articles, will result in a grade of zero for your essay and can result in further disciplinary action.

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment (see Student's Guide Handbook, Policies and Procedures, Conduct.)

The American with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have disability requiring accommodations please contact: Office of Student Disability Resources and Services, Texas A&M University-Commerce, Gee Library, Room 132, phone (903) 886-5150 or (903) 886-5835, fax (903) 468-8148, StudentDisabilityServices@tamuc.edu.

**Early Intervention for First-year Students:**

Early intervention for freshmen is designed to communicate the University's interest in their success and a willingness to participate fully to help students accomplish their academic objectives. The university through faculty advisors and mentors will assist students who may be experiencing difficulty to focus on improvement and course completion. This process will allow students to be knowledgeable about their academic progress early in the semester and will provide faculty and staff with useful data for assisting students and enhancing retention. Grade reports will be mailed by the end of the sixth week of the semester.

**Tentative Laboratory Schedule:**

<b>Week</b>	<b>Topic</b>
1	Lab Safety, Intro to medical terminology, Bananas
2	Evolution
3	Protozoa and Bacteria
4	Vertebrates
5	Vertebrates
6	Invertebrates
7	<b>Midterm Practical and Exam</b>
8	Circulation, Gas exchange, and Immunology
9	<b>Spring Break – no class!</b>
10	Hormones and Reproduction
11	Brain and the Senses
12	Neuroscience
13	Ecology and Animal Behavior
14	<b>Presentations, Research paper due</b>
15	<b>Final Exam</b>