

# Diversity of Life Laboratory Syllabus

## EBIO 1015 — SPRING 2012

**Lab Supervisor** Dr. Donata Henry is available by appointment ([droome@tulane.edu](mailto:droome@tulane.edu)) on Mondays and Wednesdays in 431 Boggs.

**Lab Instructor** \_\_\_\_\_

**e-mail address** \_\_\_\_\_ **office** \_\_\_\_\_

PLEASE COPY YOUR INSTRUCTOR'S INFO INTO YOUR LAB MANUAL

**You MUST bring the lab manual to each lab session.**

**All labs except field trips meet in the Science and Engineering Labs Complex, room 218.**

### Course Description

The Diversity of Life Laboratory is a series of active learning exercises, integrated into a survey of the biological kingdoms, with emphasis on comparative morphology, evolutionary design, and biodiversity. Students will have the opportunity to examine many of the organisms discussed in lecture, and will gain an understanding of and appreciation for the organisms that share our planet.

### Outcomes

EBIO1050 is an introductory laboratory course designed for majors in Ecology and Evolutionary Biology. Students are expected to: 1) demonstrate factual knowledge of organismal biology, with an emphasis on the diversity, ecology and evolution of organisms; 2) use a variety of techniques to examine and compare organisms and acquire an understanding of their life histories and evolutionary relationships.

### Specific Aims

Laboratory students will: 1) learn and practice techniques for examining organisms, including microscopy, drawings, and dissections; 2) combine their observations with methods for constructing keys and phylogenies to better understand evolutionary relationships; 3) review processes of cell division, reproduction, evolution and other sources of variation in populations and biodiversity, and 4) experience the diversity of life in the lab and on field trips.

### Laboratory Guidelines

**Be prepared when you come to lab.** Review the lab manual in advance, and use it as you examine the slides and specimens. The lab manual contains information, instructions, and directions for the dissections, as well as questions to answer as you work through each exercise. Your lab instructor will provide you with specific directions and assistance throughout the lab period. Most labs will take the full two hours and fifty minutes to complete.

We try to synchronize the labs with the lectures as much as possible, but inevitably some sections will encounter material in the lab before the lecture. Reading the appropriate chapter(s) in the manual before you come to lab will improve how well you understand and work through the material.

**Turn off all cell phones and other electronic devices during lab.** Please be courteous to your instructor and lab mates. Save the texting for some other time. Any use of an electronic device during a quiz or lab will result in an automatic zero for that quiz or assignment.

**Clean your station thoroughly** before you leave. Your area must be clean, your microscope properly stored, and all display materials returned to wherever you found them. Take only one or two slides at a time from the display area and be sure to return them to the proper tray. Please do not leave any trash in the lab. Do not leave wastes in the sink or your dissecting pans. Dispose of slides and other glassware **ONLY** in the glassware disposal container provided.

## **Grading**

Laboratory grades are based on 455 points calculated as: 12 lab exercises and a field trip @ 15 points each, and 11 quizzes @ 25 points each. Lab exercises covering material learned in the current lab session must be completed neatly and accurately to receive full credit. Credit may not be received for lab exercises completed outside of the lab period. Weekly practical-style quizzes at the start of each lab will primarily cover material learned in the previous week's lab, and may include questions that apply to the upcoming lab or past labs.

If you have a learning disability or health concern, please notify your instructor and Dr. Henry **at the beginning** of the semester so that your needs can be accommodated.

Students should adhere to the Tulane Honor Code <http://www.tulane.edu/~uc/honorcode.htm>. Violations of this code are unacceptable. If a student is unsure how a particular quiz or assignment is affected by the honor code, it is the student's responsibility to consult the instructor.

**Each student is required to attend one field trip during the week of April 9<sup>th</sup>.**

**Don't miss lab!** Because there is an extensive amount of preparation and perishable material that goes into each lab set-up, it is not possible to make-up labs outside of the lab week. Students may request permission from their instructor to attend a different section during the week **IF** they have a reasonable and documented excuse. **You will NOT be allowed to attend another lab UNLESS you have permission from your instructor.** You should e-mail them your request and may not attend an alternate lab until you get their confirmation. Reschedules will be facilitated **NO MORE THAN 2 TIMES** during the semester. The schedule of lab times is:

Monday: 9-11:50, 12-2:50, 3-5:50, 6-8:50

Tuesday: 9:30-12:15, 12:30-3:15, 3:30-6:15, 6:30-9:15

Wednesday: 9-11:50, 12-2:50, 3-5:50, 6-8:50

Thursday: 9:30-12:15, 12:30-3:15, 3:30-6:15, 6:30-9:15

Students are responsible for making arrangements to take make-up quizzes with the instructor **within the week of their absence**. Delays will make you ineligible for make-up quizzes.

**If you miss more than two labs, you will automatically receive a failing grade for the lab.**

## Laboratory Schedule

	<b>Week of:</b>	<b>Topic</b>	<b>Pages in Manual</b>
<b>Lab 1</b>	January 23 <sup>rd</sup>	Introduction, Cell Division	pp. 1-20
<b>Lab 2</b>	January 30 <sup>th</sup>	Microscopy	pp. 23-28
<b>Lab 3</b>	February 6 <sup>th</sup>	Bacteria and Protista	pp. 29-38
<b>Lab 4</b>	February 13 <sup>th</sup>	Porifera to Rotifera	pp. 39-47
<b>No Labs</b>	February 20 <sup>th</sup>	<b>Mardi Gras Break</b>	
<b>Lab 5</b>	February 27 <sup>th</sup>	Mollusca, Annelida & Nematoda	pp. 48-58
<b>Lab 6</b>	March 5 <sup>th</sup>	Ecdysozoans	pp. 59-66
<b>No Labs</b>	March 12 <sup>th</sup>	<b>Spring Break</b>	
<b>Lab 7</b>	March 19 <sup>th</sup>	Echinodermata and Chordata	pp. 67-78
<b>Lab 8</b>	March 26 <sup>th</sup>	Fungi	pp. 79-85
<b>Lab 9</b>	April 2 <sup>nd</sup>	Bryophytes and Non-Seed Plants	pp. 86-93
<b>Lab 10</b>	April 9 <sup>th</sup>	<b>Field trips will be held Tuesday – Saturday</b>	
<b>Lab 11</b>	April 16 <sup>th</sup>	Gymnosperms and Angiosperms	pp. 94-104
<b>Lab 12</b>	April 23 <sup>rd</sup>	Animal Behavior	pp. 105-112

***Each student is required to attend one field trip during the week of April 9th.***

- Sign-up sheets will be posted outside of the lab through March 9th. **NO CHANGES to the field trip rosters will be made after March 23<sup>rd</sup>.** Because we must make reservations well in advance of our trips, failure to sign up may make you ineligible to participate.
- IF you must reschedule due to an unforeseen conflict you will only be able to attend a zoo field trip and will be responsible for paying your own \$13 admission. You **MUST** send an e-mail to Dr. Henry specifying which trip you will be missing and which trip you will be attending.
- There are **NO** make-up field trips, and you may not complete the assignment on your own for credit.

Field trips to the Audubon Zoo, Audubon Insectarium, and the Aquarium of the Americas will run mornings from 9:30am to 12:30pm and afternoons from 12:30pm to 3:30pm. Insectarium and aquarium trips will meet at the tennis courts in front of the Reily Center. Zoo trips will meet at the entrance to the zoo. **You will need your student ID to enter the zoo.**

During the field trip you will test your knowledge of the information you have learned in the lab by completing an assignment about the organisms on exhibit. The assignment is due at the end of the field trip.