

## **Principles of Biology Lab 2**

### **BSC2011L | Spring 2017**

**ONLINE version – sections 1B75, 1B78, 1B87, 1C02 only**

#### **Contact Information**

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#### **Course Goals and Objectives**

##### **Course Goals**

The primary goal of this course is to establish a coherent foundation of knowledge in biology and to prepare students for comprehension in advanced biology courses and science in general. Fundamental concepts discussed include the scientific methods by which we come to know things in science, the chemical composition and processes that make up all life, genetic processes and the means of inheritance of traits, the mechanisms and processes of natural selection, and adaptation and evolution of life on Earth. An additional course goal is to develop critical thinking skills for development of reasoned thought and for evaluation of life experiences.

##### **Course Objectives**

Objectives of the course will be achieved if, by its conclusion, students can:

- Form scientific hypotheses, develop testable predictions, and design experiments to test hypotheses
- Understand the importance of statistics in scientific sampling, discriminate between descriptive and inferential statistics and correctly identify situations in which the use of each is appropriate, understand the meaning of statistical significance, interpret statistic results and draw appropriate conclusions from them
- Select the appropriate type of graph to illustrate patterns in data based on hypothesis
- Create graphs that display data in a meaningful way and appropriately labeled
- Interpret data and draw conclusions based on concepts learned in BSC2010 and BSC2011
- Identify the primary structural elements of various plant groups, their associated functions, and explain the processes of plant growth and structural development

- Define sexual reproduction and explain the general reproductive life cycles of plants and animals
- Describe the major patterns and developments in the evolution of plant clades
- Identify the primary organs of a representative mammal and their associated functions
- Read, evaluate, and construct a phylogenetic tree
- Compare and contrast changes in human population growth over the past 150 years using survivorship data
- Evaluate the impact of diversity on ecosystem function • Compare changes in land and ocean surface temperature of the past century
- Identify and evaluate current and projected impacts of climate change

## General Education Objectives for Biological Sciences

Biological science courses provide instruction in the basic concepts, theories and terms of the scientific method in the context of the life sciences. Courses focus on major scientific developments and their impacts on society, science and the environment, and the relevant processes that govern biological systems. Students will formulate empirically-testable hypotheses derived from the study of living things, apply logical reasoning skills through scientific criticism and argument, and apply techniques of discovery and critical thinking to evaluate outcomes of experiments.

The General Education objectives and the associated Student Learning Outcomes for Biological Sciences are achieved through inquiry-based and active-learning exercises in the laboratory, including prelab assignments, experimental design, quizzes, oral presentations, and completion of weekly lab notes and data sheets. These exercises are designed to reinforce, augment, and accompany learning objectives in the companion BSC 2010 lecture course. In particular, the BSC 2010L lab exposes students to the development and testing of specific hypotheses, collection and presentation of biological data, and analysis of statistical significance.

## Learning Resources

### Late Nite Labs

Part of your assignments will be completed using Late Nite Labs. They are virtualized labs you will perform and answer both short-answer and multiple-choice questions about when you are finished.

To register, go to [latenitelabs.com](http://latenitelabs.com). Click on "Sign Up" in the top right corner. Select "Student." Enter your information. You **MUST** use your [ufl.edu](http://ufl.edu) address when registering. Doing otherwise may prevent you from getting graded for these assignments. You will be asked for a section code. Use section code for the section you are enrolled in as listed in the table below. Once entered, it will verify that you are registering for Spring 2017 at a price of \$24.95. You should now be able to see the course with the instructor's name.

Your section code that you need to use when registering is: **87964452**

Use this link to visit the tutorials page for Late Nite Labs: <http://latenitelabs.com/tutorials>

The user manual for Late Nite Labs can be found here: <http://latenitelabs.com/manuals/>

## **Readings**

Many labs require some reading before beginning the lab activities. Information regarding required readings for each module will be listed in that module. Readings will be from either the textbook, Hillis, et al. Principles of Life, 2nd ed. (the same book used in the lecture course) or articles placed in the course reserves

## **Help Resources**

### **Canvas/eLearning Issues**

Contact the help desk at:

email: [learning-support@ufl.edu](mailto:learning-support@ufl.edu)  
(352) 392-HELP - select option 1  
Help Desk home page

### **Late Nite Labs**

Contact Late Nite Labs at the options below. Do NOT contact the Canvas help desk for assistance with Late Nite Labs.

email: [support@latenitelabs.com](mailto:support@latenitelabs.com)  
phone: 800-262-0518

## **University Support Services**

College can be a very stressful time in a person's life. Resources are available on campus to help students meet academic goals and solve personal problems that may interfere with their academic performance. If you find that you are having difficulty emotionally or academically, there is substantial support available. See "A Self Help Guide for Students" or contact one of the following services:

UF Counseling and Wellness Center, Radio Rd Facility, 392-1575  
Dean of Students Office, 202 Peabody Hall, 392-1261  
Career Resource Center, Reitz Union, 392-1601  
CLAS Academic Advising Center, Farrison Hall, 100 Fletcher Drive, 392-1521  
Other Questions

If you have non-tech-support questions about other aspects of the course, check the following sources first to see if it is already answered, before e-mailing your instructors:

## **Course Syllabus:**

### **Start Here pages**

**Course Announcements** (this is the primary means that your instructor has to communicate with you in a timely manner)

**General Questions** discussion board in Canvas

If you still cannot find the answer to your questions

If it is a question that others might find useful to know the answer to as well, post it to the General Question discussion board.

If it is a question specific to you (e.g. account or grade specific), contact your instructor or TAs via Canvas inbox.

## **Learning Activities**

### **Reading Assignments**

You should review fully each laboratory assignment prior to beginning the pre-lab assignment. In most cases you will be unable to complete the observations and experiments fully and efficiently during the lab unless you know exactly what is to be done before you start the laboratory. Reading assignments are outlined in each Lab overview on Canvas.

### **Labs**

Each lab will have a lab activity. Some may have pre-lab and post-lab activities as well.

## **Course Policies**

### **Assignment Deadlines**

Each lab will begin on a Monday and close on Sunday. Some labs have a two week component, in which case each part will adhere to this schedule.

**Pre-Lab:** Pre-labs (if applicable) will be due on Thursday at 11:55pm EDT/EST. All readings should be done prior to completing the pre-lab.

Discussion posts: An initial discussion post will be due on Friday at 11:55pm, and a reply to a classmate's post will be due on Sunday at 11:55pm.

**Lab Activities:** All lab activities must be completed/turned in by Sunday at 11:55pm unless otherwise noted in the activity. If it is a two week long lab, then only the part assigned for that week will be due. If a post-lab activity is assigned, it is due at the same time as the lab activities.

## **Late Work**

Late work will not be accepted, unless an excuse is provided to the instructor from the Dean of Students Office, or due to a documented technical issue. If there is an issue with you completing your assignments on time, contact your instructor immediately. Do not wait until the last minute to contact.

## **Participation**

Some labs require you to discuss answers in groups. These discussions are usually graded. A rubric will apply to each discussion. You must adhere to the netiquette polices outlined below.

## **UF Policies**

### **Academic Honesty**

All students registered at the University of Florida have agreed to comply with the following statement:

“I understand that the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University.”

In addition, on all work submitted for credit the following pledge is either required or implied:

“On my honor I have neither given nor received unauthorized aid in doing this assignment.”

Cases of plagiarism or other academic dishonesty will not be tolerated, and may result in grade penalties or other sanctions. In this course, academic dishonesty includes (but is not limited to) collaborating with other students on coursework outside the assigned discussions, discussing quiz questions or answers with other students, giving other students the password for locked quizzes, and plagiarism. If you have knowledge of any instances of academic dishonesty in this class, please notify the instructor or contact the Student Honor Court (392-1631) or Cheating Hotline (392-6999). For additional information on Academic Honesty, please refer to the University of Florida Academic Honesty Guidelines.

Plagiarism is also a violation of the Academic Honesty Policy, and will be treated as such, resulting in grade penalties or other sanctions. Please review how plagiarism is defined and how to avoid it.

## **Accommodations for Students with Disabilities**

Students who will require a classroom accommodation for a disability must contact the Dean of Students Office of Disability Resources, in Peabody 202 (phone: 352-392-1261). Please see the University of Florida Disability Resources website for more information. When possible, the student should provide documentation of a requirement for accommodation to the instructor by the second week of classes. No accommodations are available to students who lack this documentation, and accommodations are not retroactive. It is the policy of the University of Florida that the student, not the instructor, is responsible for arranging accommodations when needed. Once notification is complete, the Dean of Students Office of Disability Resources will work with the instructor to accommodate the student.

## **Drop/Add/Withdrawal**

A student can drop/add during the drop/add period with no penalty. After drop/add, a student who drops will receive a W until the date listed in the academic calendar. After that date, the student may be assigned an "E" (fail). Note: it is the responsibility of the STUDENT to withdraw from a course, not the instructor. Failure to participate/complete the class does NOT constitute a drop.

## **Course Evaluations**

Anonymous course evaluations will be open via UF's online evaluations system near the end of the semester; you will receive email notifications of when the evaluations open. We do take student feedback into account when planning future semesters; please let your instructors know if there are particular modules and/or activities that you found helpful or that you would have liked to cover in more depth, as well as any that you found less useful.

## **Grades**

### **Grading Scale**

A = 90-100  
B+ = 87-89.9  
B = 80-86.9  
C+ = 77-79.9  
C = 70-76.9  
D = 60-69.9  
F = 59.9 and below

### **Grade Breakdown**

Each lab is worth 10% of your grade, or 100 points.

## Course Schedule

### Weekly Schedule

Week #	Week of	Module #	Module title
1	Jan 9	1	Science and Statistical Inference
2	Jan 16		Science and Statistical Inference (continued)
3	Jan 23	2	Photosynthesis
4	Jan 30	3	Plant Structure and Function
5	Feb 6	4	Plant Reproduction
6	Feb 13	5	Sensory Physiology
7	Feb 20	6	Comparative Anatomy
8	Feb 27	7	Animal Tissues
9	Mar 6		SPRING BREAK
10	Mar 13	8	Population Ecology
11	Mar 20	9	Species Richness and Ecosystem Function
12	Mar 27	10	The Changing Climate