

## BSC 2010L - Integrated Principles of Biology I Laboratory Syllabus – Fall 2014

### Course Information

Laboratory Locations: B-14 & B-20 Carr Hall, B-22 Bartram Hall

Biology Office: 220 Bartram Hall, 392-1175

Lab Coordinator: Kent A. Vliet, PhD, Department of Biology, 208 Carr Hall, [kvliet@ufl.edu](mailto:kvliet@ufl.edu)

Required Texts: (1) Vliet, K.A., 2013. *BSC 2010L: Integrated Principles of Biology I Lab Manual, Fourth Edition*. Hayden-McNeil Publishing, Plymouth, Michigan. 248 pp.

(2) Vliet, K.A. BSC 2010L Course Pack - available at Target Copy.

Homepage: [www.bsc.ufl.edu/2010L.html](http://www.bsc.ufl.edu/2010L.html)

CANVAS: <https://lss.at.ufl.edu/>

### Instructor

**My TA:** \_\_\_\_\_  
**Office:** \_\_\_\_\_  
**Office Hours:** \_\_\_\_\_  
**Email:** \_\_\_\_\_

### Grading

Your BSC 2010L grade will be based on raw scores from quizzes, practical quizzes, lab sheets and pre- and post-lab assignments. Specific assignments are detailed in a point breakdown sheet provided with this syllabus. While data sheets, pre-labs, and post-labs are each worth a certain number of points, not all questions in every assignment may be graded. Rather, a subset of the questions may be graded for accuracy, while all others would be graded for completeness. Since you do not know which questions are graded for accuracy or completeness, you should devote full effort to all questions on assignments. Please understand that this policy has been implemented to reduce TAs' grading time while still offering students engaging learning experiences. Quizzes generally cover material from the previous lab exercise as well as assigned readings for the present lab. Final letter grades will be assigned based on percentage of the total points earned. Minimum grade cutoffs are listed below. These may be lowered ("curved") at the discretion of the instructors, but they will not be raised. In other words, if you receive 90% of the possible points, you are guaranteed to earn an A grade. Scores will not be rounded (i.e., 89.9% is not 90%).

Point Range (%)	Letter Grade
≥ 90.0	A
≥ 86.7	A-
≥ 83.3	B+
≥ 80.0	B
≥ 76.7	B-
≥ 73.3	C+
≥ 70.0	C
≥ 66.7	C-
≥ 63.3	D+
≥ 60.0	D
≥ 56.7	D-
< 56.7	E

Note that the current UF policy for assigning grade points is available at the following undergraduate catalog web page: <http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>.

**Extra Credit:** There is no extra credit available in this course.

**Special Treatment:** Please do not request individual special treatment regarding grading at the end of the semester; **we do not adjust grades for individuals for any reason.** Plan to do well on all exams and other assessments from the beginning of the semester; if you are having difficulty in the class, please let your instructors know *before* the exams rather than after.

### Lab Supplies

Dissecting kit (small probe and seeker, fine dissecting scissors, fine point forceps, scalpel with replaceable blade, teasing needles). The Campus Shop, the Florida Bookstore, and University Book and Supply should carry good kits with these items. **All of these supplies must be furnished by the student.** They will not be available in lab.

### Reading Assignments

You should review fully each laboratory assignment *prior* to the laboratory period. In most cases you will be unable to complete the observations and experiments fully and efficiently during the lab period unless you know exactly what is to be done before you walk into the laboratory. Reading assignments are included in this syllabus. Weekly quizzes are based partially on the reading assignments.

### Expectations

Each student is solely responsible for reading and following the instructions, guidelines and schedules in this syllabus. Not having read the information in this syllabus will not constitute an excuse for missing an assignment, exam or other assessment.

### Lab Policies

#### Excused absences

You are expected to attend the lab section for which you are registered. If you miss your lab, notify your instructor immediately by e-mail. You must have a **valid, documented excuse** for missing your regular lab section to be allowed to make up a lab without penalty. **The validity of excuses for missed labs or assignments will be determined by your instructor.** If you do not have documentation for missing your lab, you *may be* given the opportunity to makeup assignments of graded materials **at the discretion of your instructor.** This work will be done outside of the laboratory and will be penalized 20% of the total points. In this case, missed quizzes cannot be made up. *Missed labs generally must be made up within the same week.* **If you know in advance that you are unable to make your regular sections, contact your lab TA earlier in the week.**

#### Illness

If you are ill with an infection that may be contagious by casual contact (e.g., a cold or flu), you should not attend class. Furthermore, if you have a fever associated with any illness, you should not attend class until you have been free of fever for at least 24 hours. The instructor reserves the right to ask any student to leave the classroom at any time if there is a reasonable likelihood that the student's presence in the classroom places other students at substantial risk of infection.

#### Assignment deadlines

Graded assignments are due at the *beginning* of the lab session one week after the actual lab work was done, unless otherwise noted. Assignments turned in after the start of the lab session will be considered late work. NOTE: Students who attend a lab session other than their officially registered section and perform an experiment which require a data sheet or lab report *must still turn in their work at the beginning of their officially registered section on the following week.* If you are unable to turn in your work during your regular lab section and are not able to hand it in directly to your instructor, DO NOT

leave an assignment at your instructor's office. Rather, (1) make a photocopy of your lab report for safekeeping and (2) hand in the original to the staff of the departmental office (**220 Bartram Hall**) during regular office hours (**8 a.m.- 4 p.m.**).

#### **Late work**

Late work will be penalized 10% of the total points per day (weekends, *i.e.*, Friday to Monday, are counted as two days and U.F.-recognized holidays are not counted). NOTE: The weekends preceding and following the Semester Break holidays will be counted.

#### **Participation**

Students may be allowed to turn in assignments on which they did not participate in the collection of data, *at the discretion of the lab instructor*. These assignments will be penalized 20% of points.

#### **Lab cleanliness**

No food or drink is permitted in the labs and students are expected to leave the lab as clean and orderly as it was when they arrived for class. NOTE: All scraps of paper, paper towels, broken cover slips and slides, masking tape, and any other trash must be properly disposed of by the students themselves.

#### **Lab attire**

Students are not allowed to wear sandals or open-toed shoes in the laboratories.

### **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."*

If you witness 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 at:

<http://www.dso.ufl.edu/judicial/procedures/academicguide.html>.

### **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 at: <http://www.dso.ufl.edu/drp/services/>. Note that the student should provide documentation of a requirement for accommodation **by the second week of labs**. No accommodations are available to students who lack this documentation. 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.

### **Counseling Center**

Many students experience test anxiety and other stress related problems. "A Self Help Guide for Students" is available through the Counseling Center (301 Peabody Hall, 392-1575) and at their web site: <http://www.counsel.ufl.edu/>.

### BSC 2010L Laboratory Schedule – Fall 2014

Laboratory topics and reading assignments for this course are listed below. This is a tentative schedule; the dates and coverage of specific topics are subject to change.

Week	Week of	Laboratory Topic	Assignments
<b>1</b>	25 Aug	**** NO LABS ****	
<b>2</b>	1 Sept	**** NO LABS ****	<b>Science and Statistical Inference Pre-lab</b>
<b>3</b>	8 Sept	<b>Introduction; Science and Statistical Inference</b>	<ol style="list-style-type: none"> <li>1. Read pp. v-vi and <b>Chapters 1 and 2</b> in manual, <b>Science and Statistical Inference</b> in course pack</li> <li>2. Statistics <b>Pre-lab</b> (10 pt)</li> <li>3. Cricket Chirp Activity (5 pt)</li> <li>4. Statistics Lab Notes (15 pt)</li> </ol>
<b>4</b>	15 Sept	<b>Enzyme Kinetics</b> Diversity: Phyla Calcarea, Silicea (Porifera), Cnidaria	<ol style="list-style-type: none"> <li>1. Read <b>Chapters 5, 6 and 7</b> in manual, <b>Enzyme Kinetics</b> in course pack.</li> <li>2. Enzymes <b>Pre-lab</b> (10 pt)</li> <li>3. Enzymes Lab Notes (15 pt)</li> </ol>
<b>5</b>	22 Sept	<b>Yeast Fermentation</b> Diversity: Phyla Platyhelminthes, Annelida and Nematoda	<ol style="list-style-type: none"> <li>1. Enzymes <b>Postlab</b> (5 pt)</li> <li>2. Read <b>Chapter 10</b> in manual</li> <li>3. Quiz 1 (15 pt)</li> <li>4. Fermentation Lab Notes (5 pt)</li> </ol>
<b>6</b>	29 Sept	<b>Enzymes &amp; Fermentation Inquiry</b> Diversity: Phylum Mollusca	<ol style="list-style-type: none"> <li>1. Enzymes &amp; Fermentation <b>Pre-lab</b> (10 pt)</li> <li>2. Enzymes &amp; Fermentation Lab Notes (15 pt)</li> </ol>
<b>7</b>	6 Oct	<b>Introduction to Genetics, PTC PCR</b> Diversity: Phylum Arthropoda	<ol style="list-style-type: none"> <li>1. Read <b>Chapter 11 and 16</b> in manual, <b>Introduction to Genetics</b> in course pack.</li> <li>2. Quiz 2 (15 pt)</li> <li>3. Genetics Lab Notes (15 pt)</li> <li>4. PTC PCR Lab Notes (5 pt)</li> </ol>
<b>8</b>	13 Oct	**** NO LABS ****	
<b>9</b>	20 Oct	<b>Experimental Genetics 1</b> Diversity: Phylum Echinodermata	<ol style="list-style-type: none"> <li>1. Read <b>Chapters 2 and 12</b> in manual</li> <li>2. Experimental Genetics 1 <b>Pre-lab</b> (10 pt)</li> <li>3. Experimental Genetics 1 Lab Notes (15 pt)</li> <li>4. Deuterostomes chapter in course pack</li> </ol>
<b>10</b>	27 Oct	<b>Population Genetics</b> Diversity: Phylum Chordata: Subphyla Urochordata and Cephalochordata	<ol style="list-style-type: none"> <li>1. Review <b>Chapter 16</b> and <b>PTC PCR and Population Genetics</b> in course pack</li> <li>2. Quiz 3 (15 pt)</li> <li>3. Population Genetics Lab Notes (15 pt)</li> </ol>

<b>11</b>	3 Nov	<b>Experimental Genetics 2; Diversity</b> (2 groups): Phylum Chordata: Subphylum Craniata: 6 classes of fishes	1. Experimental Genetics 2 Lab Notes (10 pt)
<b>12</b>	10 Nov	**** NO LABS ****	
<b>13</b>	17 Nov	<b>Invertebrate Dissections</b> Diversity (2 groups): Phylum Chordata, Subphylum Craniata: 3 classes of tetrapods	1. Read <b>Chapters 18 and 20</b> in manual 2. Invertebrate Dissections <b>Pre-lab</b> (5 pt) 3. Invertebrate Dissections Lab Notes (15 pt)
<b>14</b>	24 Nov	**** NO LABS ****	
<b>15</b>	1 Dec	<b>Cladistics</b>	1. Read <b>Cladistics</b> in course pack 2. Cladistics <b>Pre-lab</b> (15pt) 3. Quiz 4 (25 pt) 4. Cladistics Lab Notes (10 pt)
<b>16</b>	8 Dec	**** NO LABS ****	

### Laboratory Assignment and Point Breakdown Sheet – Fall 2014

WEEK	ASSIGNMENTS	POINTS
1	**** NO LABS ****	
2	**** NO LABS ****	
3	Science and Statistical Inference Prelab Pretest Participation Cricket Chirp Activity Science and Statistical Inference Lab Notes	___/10 ___/5 ___/5 ___/15
4	Enzyme Kinetics Prelab Enzyme Kinetics Lab Notes	___/10 ___/15
5	Enzymes Postlab Quiz 1 (Statistics, Enzyme Kinetics, diversity) Yeast Fermentation Lab Notes	___/5 ___/15 ___/5
6	Enzymes & Fermentation Prelab Enzymes & Fermentation Lab Notes	___/10 ___/15
7	Quiz 2 (Yeast fermentation, Enzymes & Fermentation, diversity) Introduction to Genetics Notes PTC PCR Lab Notes	___/15 ___/15 ___/5
8	**** NO LABS ****	
9	Experimental Genetics 1 Prelab Experimental Genetics 1 Lab Notes	___/10 ___/15
10	Quiz 3 (Genetics, Experimental Genetics, Diversity) Population Genetics Lab Notes	___/15 ___/15
11	Experimental Genetics 2 Lab Notes	___/10
12	**** NO LABS ****	
13	Invertebrate Dissection Prelab Invertebrate Dissection Lab Notes	___/5 ___/15
14	**** NO LABS ****	
15	Cladistics Prelab Quiz 4 (Population Genetics, Experimental Genetics, Invert Dissections, Diversity) Cladistics Lab Notes	___/15 ___/25 ___/10
	Diversity Presentation (PowerPoint) Diversity PowerPoint -2 <sup>nd</sup> submission (optional – up to 2 additional pts to total of 10)	___/10 ___/(2)
	<b>TOTAL POINTS:</b>	<b>___/290</b>

## BSC Laboratory Safety

Work in the Biology laboratory may expose students to **inherently dangerous activities**. Students in the BSC laboratories may be exposed to chemicals (e.g., formaldehyde, organic solvents, acids, and other caustic chemicals), chemical fumes, laboratory equipment and supplies (e.g., scalpels, razor blades, glass slides, coverslips, and electrical equipment), toxic or irritating properties of living and dead animals, and other materials necessary to laboratory activities. Other possible hazards include broken glass on the floor or counters, combustible materials, and slippery spills.

1. Smoking, eating, and drinking are expressly forbidden and NOT allowed in the laboratory.
2. Locate the placement of safety equipment and supplies in the laboratory: safety shower, eye wash station, fire extinguisher, and first aid kit. Memorize these locations. You should understand the use of this equipment. Also note the locations of exits. Each laboratory has a chemical exposure manual. These include material safety data sheets on all hazardous chemicals or compounds to which you might be exposed in the BSC laboratory.
3. Students should follow instructions carefully, especially when hazardous conditions occur or hazardous materials are being used.
4. Students should dress appropriately in the lab. Gloves and protective aprons will be made available in the labs. Students may elect to supply their own gloves and protective aprons or laboratory coats. Only shoes that provide complete foot covering are allowed in the lab.
5. You should be familiar with fire procedures. Leave the building immediately should a major fire occur or if the fire alarm sounds. Notify the appropriate authorities -- don't assume someone else remembered to do it. Meet with other students and your instructor outside the building before leaving so that an accurate headcount may be made.
6. The safe use of specific equipment and tools (e.g., microscopes, slides, scalpels, and pipettes) will be demonstrated by the instructor during the laboratory sessions. Be sure you understand this usage and ask questions if you do not.
7. Never pipette by mouth. Always use a suction bulb or pipette aid.
8. Notify your T.A. IMMEDIATELY of any spills, breakages, or equipment malfunction.
9. Students should report all hazardous conditions to the instructor immediately.
10. All organisms, living or dead, should be treated with care and respect. Avoid direct handling when possible.
11. Students should clean up any supplies used and should return materials where they belong as instructed. Any material spilled should be cleaned appropriately. Report any hazardous spills or breakages.
12. Broken glass and sharp metal waste should be placed only in those receptacles marked for such disposal -- do not put these materials in normal trash receptacles.
13. Work areas must be left clean and dry prior to leaving the lab. Chemicals and reagents must be returned to their proper places.
14. You should always wash your hands before leaving the laboratory, even if you have not knowingly come in contact with any chemicals or biological fluids.