Bi 213: Principles of Biology III, Spring 2016

Instructor
Dr. Erin Shortlidge
Office: SB1 522
Email: eshortlidge@pdx.edu.
Please do not use the D2L email function to contact me.
Office Hours: Monday 1 – 2 PM in SB1 522
Wednesday 11:15 AM – 12:15 PM in 1A005 CLSB

Lecture Teaching Asst.
Rachel Palmer
Email: rmp@pdx.edu
Office Hours: Wednesday 11:15 AM – 12:15 PM in 1A005 CLSB
Wednesday 12:15 PM – 1:15 PM in CLSB Lobby

Course Description
The Principles of Biology sequence (Bi 211, 212, & 213, along with labs Bi 214, 215 & 216) introduces the foundations of life science. In Bi 213 and 216 we examine how biotic and abiotic factors impact living organisms and the physiological underpinnings that allow organisms to survive. Specific topics include ecology, physiology, organismal systems (water balance, gas exchange, nervous, circulatory, endocrine), community and population ecology, biodiversity and conservation.

Pre- & co-requisites
Chemistry 221 and 227 (or concurrent enrollment)
Co-requisite: Bi 216, Principles of Biology III Laboratory

Required items
Text: ‘Biological Science' by Scott Freeman, 5th edition (Pearson)
Classroom response: i>clicker plus (http://www.iclicker.com).
note: iclicker2 remotes will also work. The iclickerREEF and iClickerGo apps will NOT work for this class. You must have a clicker to get your answers counted.
Exams: Four Scantron forms SC982-E (the full-page form, available at PSU Bookstore), #2 pencils, & photo ID
Not required: “Study Guide for Biological Science" 5e
"Mastering Biology" access code

Learning Objectives
Upon completion of Bi 213 and Bi 216, students should be able to:
● Recognize and be able to discuss the connections between organismal structure and function
● Understand the importance of information flow in biology
● Understand how abiotic factors select for organismal adaptation and impact functional biology
● Have a general understanding of animal physiological systems
● Comprehend how organisms interact with one another and their environments as individuals and as systems
● Compare and contrast levels of ecology
● Understand basic global cycles
Syllabus: Bi 213

- Find the connection of biology to “the real world” and your lives
- Understand and experience the “nature of science” and the process of science

Skills Development

During this course, students will learn how to:
- Generate hypotheses and test them experimentally
- Understand and create tables and graphs for reporting experimentally derived data
- Communicate science in writing using a laboratory report format
- Apply common laboratory tools and skills
- Collect and record data that is precise and accurate
- Work cooperatively to solve scientific problems and carry out organized experimentation
- Present information in a manner that is understandable to non-scientists as well as your peers
- Read and analyze selections from the primary scientific literature
- Learn to decipher between reliable and non-reliable sources of scientific information
- Engage in productive, respectful discourse with peers and instructors
- Think critically and creatively to solve and test problems

Course Web Pages

I will use the PSU online resource “D2L” for posting the lab manual, daily notes, announcements, exam grades, and other course materials. Log in at https://d2l.pdx.edu. Check D2L regularly!

Lectures

Section 1 (CRN 65042): MWF 10:00 – 11:05, CLSB 1A001
Section 2 (CRN 65043): MW 18:40 – 20:30, Cramer Hall 71

Important Dates

- April 10: Drop deadline (course not on transcript)
- April 13: Lecture Exam 1
- May 4: Lecture Exam 2
- May 15: Withdraw/grading option change deadline
- May 20: Lecture Exam 3
- May 30: Memorial Day (no lecture, Monday labs will be rescheduled)
- June 7: Final Exam

A more detailed academic calendar can be viewed here: http://www.pdx.edu/registration/calendar

Grading

Classroom participation (clicker questions): 15%
Small group exercises: 25%
Class exams: Best 2 out of 3 @ 20% each, 40% total
Final exam: 20%

Exams

There will be three midterm exams, and one final exam (see schedule for dates). Your lowest midterm exam score will be dropped. If you are unable to make it to a midterm exam for any reason, it will be dropped as your lowest score. No make up exams will be given. The final exam will cover the whole course, and cannot be dropped. If you know that you will need to
miss two midterm exams or the final exam, you should not take Bi213 this term.

**Classroom Participation**

Each lecture session will include questions to be answered using the required i-clickers.

*Week 1 clicker questions will not be graded, Weeks 2 - 10 will be graded.*

Your lowest three days of clicker scores from weeks 2 – 10 will be dropped. You will receive 0.5 points for incorrect answers and 1.0 point for each correct answer. If you are unable to make it to class for any reason, that day’s clicker score will be dropped as one of your lowest day scores. **Missed clicker questions cannot be made up.**

You must be physically present to answer clicker questions. **Any instance of cheating with clickers will result in a zero for the final clicker grade (15% of your total grade)!**

**i>clicker registration:** To receive clicker grades, you must register your clicker via the link in the course D2L site and associate it with your PSU ODIN ID name by Friday of Week 1.

**There are two ways to register:**

1) **Login to D2L, click on this course (Bi213 – Principles of Biology III), and find the iclicker registration link in the iclicker registration module under Activities/Course Content.** Enter your Remote ID. The Remote ID is the 8-character alphanumeric code printed below the barcode on the back of your remote, or within the battery compartment. This should link automatically to your D2L account.

2) **Or, To register online, go to http://www.iclicker.com/ and click the ‘Register’ button.**
   - Enter your First Name and Last Name in the appropriate fields.
   - In the “student ID” field, enter your ODIN ID (Use your ODIN username/login, NOT your 9-digit number). For example, if your PSU email address happens to be kittens09@pdx.edu, your ODIN ID is kittens09.
   - Enter your Remote ID. The Remote ID is the 8-character alphanumeric code printed below the barcode on the back of your remote, or within the battery compartment.
   - Enter the letters or numbers in the Image Code on the screen. You can request another image if you find the first hard to read, or play an audio reading of it instead.
   - Click the Register button. An on-screen message confirms that registration was successful. Your PSU Odin ID login is now associated with your unique i>clicker remote ID, and your clicker answers can now be graded.

**Small Group Work**

There will be five in-class small group exercises (see schedule for dates), you must be present to get the points. **Missed group exercises cannot be made up.** You will be working with Learning Assistants in the classroom for small group activities. You will be expected to participate and interact with the learning assistants positively and respectfully.
Online quizzes/activities Throughout the course there will be online quizzes that are to be taken through D2L. These quizzes must be completed by the announced due date and time to get the points. There will be no make-up quizzes/activities. We will announce these in class and on D2L.

Grading Policy Grades will be assigned according to the percentage of possible points earned. As a rough guide, the highest cumulative score can be thought of as 100%. If you earn at least 90% of the highest score you will receive an A- or higher; if you earn at least 80% you will receive a B- or higher; if you earn at least 70% of the possible points you will receive a C- or higher; if you earn at least 60% of the possible points you will receive a D- or higher.

PSU’s policy on the temporary grade of Incomplete (“I”) is strictly adhered to in this course. Please note, you must be passing the course (with a C- or better) in order to be eligible for an “I” grade. See the PSU Bulletin for more information: http://www.pdx.edu/oaa/psu-bulletin.

Disability If you have a disability and are in need of academic accommodation visit: http://www.pdx.edu/drc/prospective-students. You may also contact the Disability Resource Center (DRC) front desk at 503-725-4150, email them at drc@pdx.edu, or stop by their office at S.M.S.U. 116. First register with the DRC, then notify Dr. Shortlidge to make appropriate arrangements. Note: exams taken at the PSU Testing Center must be taken at the same time as class exams - no exceptions. Schedule exams at the Testing Center as soon as possible to ensure a spot. If for some reason you are unable to schedule any of your exams at the Testing Center for the appropriate time, let me know as soon as possible so I can arrange an alternative testing location.

Classroom and University Policies

Academic Honesty Cheating or plagiarism of any kind will not be tolerated. See the PSU Code of Conduct: http://www.pdx.edu/dos/codeofconduct. If cheating is observed, the grade for the assignment will be a “0”, and cannot be dropped as a lowest score. The student will be reported to University officials as described in the Code (577-031-0142: Procedures for Complaints of Academic Dishonesty).

Academic Courtesy Respect the rights of fellow students during the class period. Please avoid talking and other distracting behavior, and turn phones off.

When contacting your professor or TA by email, be sure to include the essentials of polite written communication: a greeting/salutation of some sort, enough background information to make your request or comment easily understood, a sign-off that includes your name as you wish to be addressed, and correct punctuation, spelling, and grammar. A polite message is much more likely to receive a speedy response.

Schedule Students are expected to be present every day in class and arrive for class on time so that lectures and labs start and end according to schedule. Since the Collaborative Life Sciences Building is separate from the main
Portland State campus, it is important that you carefully plan your schedule to account for the extra travel time required. Information about transportation options can be found here: http://www.pdx.edu/transportation/clsb.

Facilities
Everyone is expected to help maintain the appearance of the classroom and laboratory. After class, all trash should be removed and discarded appropriately, and lab benches should be left clean and organized.

Lost and Found
If you have lost an item at CLSB, first check with your instructor or TA to see if it was turned in. You may also leave a message at the OHSU Department of Public Safety Lost & Found voicemail line at 503-494-0881, or email them at pubsafe@ohsu.edu. Your call will be returned once the Lost & Found administrator checks for your item.

Safe Campus Module
Portland State University is committed to creating a safe campus for all students, and as part of this you are required to complete the Safe Campus Module in D2L. Log in to D2L, and under "My Courses," you'll find a sub-tab titled "Ongoing." Under the "Ongoing" sub-tab, you will see a course titled "Creating a Safe Campus." Click on this course and follow the prompts to complete the module.

Emergency Information
In case of emergency, if you are inside CLSB dial 503-494-4444. If you are outside the building or walking back to campus dial 911.

PSU 24 hour Campus Safety: emergency 503-725-4404, non-emergency 503-725-4407

Other PSU Resources
C.A.R.E Team: http://www.pdx.edu/dos/care-team
## Principles 213, Spring 2016 Course Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Scheduled Topics: Lecture topics may change from those listed in the syllabus, exams &amp; small groups will take place as scheduled.</th>
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| 1    | March 28 – April 1 | **Lecture:** Intro to Ecology, Animal Form & Function  
**Text:** Chapters 52.1-52.2, 42  
**Lab:** 1: Data Processing |
| 2    | April 4 – April 8 | **Lecture:** Water & Electrolyte Balance, Nutrition  
**Text:** Chapter 43.1-43.3, 43.5, 44.1, 44.3  
**Lab:** 2: Metabolism  
**Friday, April 8 - Small groups #1 Control of Blood Sugar Levels** |
| 3    | April 11- April 15 | **Lecture:** Gas Exchange & Circulation  
**Text:** Chapter 45 (p. 902-920)  
**Lab:** 3: Cardiovascular  
**HOUR EXAM 1 - Wednesday, April 13** |
| 4    | April 18 – April 22 | **Lecture:** Nervous Systems  
**Text:** Chapter 46  
**Lab:** 4: Nervous System  
**Friday, April 22 - Small groups #2 Feedback Mechanisms** |
| 5    | April 25 – April 29 | **Lecture:** Sensory Systems, Animal Movement, Behavioral Ecology I  
**Text:** Chapters 47, 48, 53  
**Lab:** 5: Sensory Systems |
| 6    | May 2 - May 6 | **Lecture:** Chemical Signals  
**Text:** Chapter 49  
**Lab:** 6: Muscle  
**HOUR EXAM 2 - Wednesday, May 4**  
**Friday, May 6 - Small groups #3: Deliberative Democracy Part I – initial position, information gathering** |
| 7    | May 9 – May 13 | **Lecture:** Reproduction, Behavioral Ecology II  
**Text:** Chapters 50, 53  
**Lab:** 7: Immunology  
**Wednesday, May 11 - Small groups #4: Deliberative Democracy Part II – regroup, come to consensus** |
| 8    | May 16 – May 20 | **Lecture:** Ecology, Population Ecology  
**Text:** Chapter 52.3-52.5, 54  
**Lab:** 8: Behavior  
**HOUR EXAM 3 - Friday, May 20** |
| 9    | May 23 – May 27 | **Lecture:** Community Ecology, Ecosystems & Global Ecology  
**Text:** Chapter 55, 56  
**Lab:** 9: Population Biology  
**Friday, May 27 - Small groups #5 Global Climate Change** |
| 10   | May 30 (Memorial DAY) – June 3 | **Lecture:** Ecosystems & Global Ecology, Conservation & Biodiversity  
**Text:** Chapters 56, 57  
**Lab:** 10: Ecology  
**No Class or Labs on Monday** |
| **Finals week** | June 6 – June 10 | **Final Exam (Comprehensive!)**  
**Tuesday, June 7   8-9:50 AM** |

**Before you print out the lecture slides, please consider if you really need them printed – conserve paper and trees! If you do print, print double-sided with multiple slides per page.**
Syllabus: Bi 213

Tips For Success

1. **Be an active learner.** Read the book ahead of class. Attend all lectures. **You are responsible for all topics discussed in the lecture, even if they do not appear in the online notes.** I expect you to be an active participant in your education. This means that coming to class, paying attention and collaborating with myself, the TAs, the Learning Assistants, and your peers is fully expected.
   - Take notes during class – do not rely on the printed-out class notes. Write down questions that come to mind during the lecture. Identify points in the lecture that you think are the main points. Review your notes after class, incorporating details that you remember but didn’t get written down.
   - When we do clicker questions and you are asked to talk with your neighbors – talk with them, more heads together may come up with get the right (or a better!) answer – if you don’t understand your peer’s reasoning – ask them. Further, taking the time to explain your thoughts or a concept to others is a great way to learn.
   - Small group work days are important days where you will have the chance to gain further conceptual understanding of the material in different ways, and experience interacting and working collaboratively with your peers and Learning Assistants.
   - Three lecture days/week are dedicated time for you to learn the material – why throw that time away by surfing Facebook or Grumpy Cat? Please don’t do this, or text message during class – those things will still be there at 11:05am. Build up your attention spans!
   - While you are reading the textbook, take the time needed to really think about what you are reading. How does it fit with what you know already? If it is not clear, consult an additional source; sometimes just seeing the same information in a different way helps immensely. Combine the information from the lecture and the text into one set of complete notes to review and study. Consider using the simple and powerful Cornell System of note-taking and review: [http://tinyurl.com/27yt64g](http://tinyurl.com/27yt64g)

2. **Figure out and use your learning strengths.** Learning styles vary from person to person. You might do your best studying through reading, writing, making or drawing models, or through discussion with fellow students. Most likely, it will take some of each of these to be most successful. Experiment, reflect on the outcomes, and use the techniques that work best for you. I will also do my best to diversify the ways in which I offer information to you.

3. **Spend time on this course.** Schedule and spend time reading and reviewing course materials ahead of class. During class, take careful, organized notes. After class, revisit your notes, and think about the logical structures underlying the subjects. Plan on spending a significant amount of time (10-12 hours/week) working on this course. Later topics build upon earlier portions of the course: do not let yourself fall behind.

4. **Ask for help if you need it.** Come to my and your TA’s office hours, find a study partner or study group, use the Discussions board on D2L, etc. You’ll make the best progress when you work to identify the areas you need to work on, and are active about seeking guidance.

5. **Use the University resources.** Campus services are available to help you with all aspects of your education, see [http://www.pdx.edu/studentaffairs](http://www.pdx.edu/studentaffairs). PSU’s undergraduate advising website is [http://www.pdx.edu/advising](http://www.pdx.edu/advising). The Undergraduate Advising and Support Center (UASC), 425 Smith Center, [http://www.pdx.edu/advising/academic-resources-and-services](http://www.pdx.edu/advising/academic-resources-and-services), offers academic advising and referral, academic support programs, community college relations, disability resource center, athletics advising, study skills workshops, tutorial programs, and student veteran services. The Peer Tutoring and Learning Center offers tutoring in many subjects (including Biology), as well as various workshops, see [http://www.pdx.edu/tutoring/](http://www.pdx.edu/tutoring/).