

Honors Biology Syllabus Fall 2017

Instructor: Courtney Edmonson
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Meeting Times: Tuesdays and Thursdays, 9:00 a.m. to 10:45 a.m.
3½ hours per week, 32 weeks

This is an Honors Biology/ pre-AP class for high school students or advanced middle school students and uses advanced high school curriculum, which can be counted as a high school science class on your transcript. As a lab-based class, Honors Biology devotes over 50% of its in-class time on labs, including inquiry-based labs, AP labs, etc. Expect to spend about half our time covering concepts and the other half in hands-on activities each week. Topics include cell chemistry, cell structure and function, heredity and genetics, classification, the six kingdoms (including a few weeks devoted to dissection), human anatomy, ecology, and evolution.

Notetaking:

Students are expected read the chapter *before* attending class and *take notes as they read* their chapters, participate in class discussions, and complete any independent videos/ articles assigned. Note any areas where you have questions to ask in class. These notes will be reviewed and count as a homework grade. *Chapter quizzes will be given over each chapter.*

Grading:

Grades for all your assignments can be viewed on the Praxis gradebook. If you have lost access to your account, please ask myself or Brenda Escobar for assistance. You must attend at least 80% of the classes (miss no more than 3 classes per semester) and have a score of 70+%, to receive a report card with a percent grade at the end of the semester.

Homework	30%	Due one week after assigned, unless otherwise stated
Labs	40%	50% participation; 50% content
Quizzes	10%	One per chapter
Exams	20%	Two each semester: midterm, final

Extra Credit:

I love delving deeper into a topic and going the extra mile, and for that I'll give extra credit on the next exam. Some example ways to obtain extra credit are (maximum 5 points per exam):

- Bring in a current article about biology being discussed in the media.
- Bring in interesting critters for the class to enjoy (we've had lizards, snakes, geckos, leaves, moths, moss, etc.)
- Write a few paragraphs on a career that requires a knowledge of biology that's not listed in the textbook.
- Suggest something to me, and I'll see if it's a good extra credit.

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Class Materials:

Pen

Paper (loose leaf, composition, or spiral notebook)

3-Ring Binder

Miller, Kenneth R., and Joseph S. Levine. Miller & Levine Biology.

Pearson Education, 2010.(textbook)

Miller, Kenneth R., and Joseph S. Levine. Miller & Levine Biology Lab Manual.

Pearson, 2012. (lab manual)

Key Dates:

August 29	First day of Classes
October 12	Midterm Exam - take home; due October 17
October 31	Halloween! Costumes encouraged :)
November 20-24	Fall Break - Happy Thanksgiving!
December 12	Final Exam - in class/ Party

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8/29, 8/31	Syllabus; Lab Safety Ch 1 The Science of Biology	Lab Skills 3 Using a Compound Microscope Ch 1 Using a Microscope to Estimate Size
9/5, 9/7	Ch 2 The Chemistry of Life	Lab Skills 2 Scientific Method Lab 6-1 Test for Organic Compounds Additional Lab 2 Enzymes in Detergent
9/12, 9/14	Ch 3 The Biosphere Ch 4 Ecosystems and Communities	Ch 3 The Effect of Fertilizer on Algae Lab 3-2 What Organisms Make Up a Microcommunity?
9/19, 9/21	Ch 5 Populations Ch 6 Humans in the Biosphere	Ch 5 Lab The Growth Cycle of Yeast Ch 6 Acid Rain and Seeds Additional Lab 3 Oil-Eating Bacteria
9/26, 9/28	Ch 7 Cell Structure and Function	Ch 7 Lab Detecting Diffusion Additional Lab 4 Osmosis
10/3, 10/5	Ch 8 Photosynthesis Ch 9 Cellular Respiration and Photosynthesis	Ch 8 Lab Plant Pigments and Photosynthesis
10/10, 10/12	Ch 9 Cellular Respiration and Photosynthesis	Ch 9 Comparing Fermentation Rates of Sugars Additional Lab 5 Photosynthesis and Respiration Additional Lab 6 Investigating the Fermentation of Kimchi
10/12	Midterm Exam	Due October 17th
10/17, 10/19	Ch 10 Cell Growth and Division	Ch 10 Lab Regeneration in Planaria Onion Root Squash
10/24, 10/26	Ch 11 Introduction to Genetics	Ch 11 Lab Modeling Meiosis Wisconsin Fast Plants – monohybrid cross and dihybrid cross Corn dihybrid cross and chi square analysis
10/31, 11/2	Ch 12 DNA	Ch 12 Lab Extracting DNA Micropipetting Lab Chemistry and Physics of a Gel Box Running Dye Molecules on a Gel*
11/7, 11/9	Ch 13 RNA and Protein Synthesis	Ch 13 Lab From DNA to Protein Synthesis
11/14, 11/16	Ch 13 RNA and Protein Synthesis	Enzyme Activity Lab (AP Lab)
11/21, 11/23	Thanksgiving Break	
11/28, 11/30	Ch 14 Human Heredity	Ch 14 Lab Using DNA to Identify Human Remains DNA Fingerprinting Simulation/Gel
12/5, 12/7	Review for Final Exam	
12/12	Final Exam/Party	