

## AP Biology 2016-2017

Mr. Devereaux

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Room: 335

Extension: 2335

### Introduction

AP Biology is designed to be a college level course given in high school. With that said, you will be expected to do college level work, including: reading assigned chapters and outside readings, completing lab exercises, writing assignments, and putting in the time **outside** of class to study. This will be a more intense course than a typical high school science class.

### Book

Campbell, Neil and Jane B. Reece. Biology. 8<sup>th</sup> ed. AP Edition New York: Benjamin Cummings, 2002.

### Labs

There is a designated double lab period every week. Most weeks, we will do some sort of lab activity. There are 8 labs that are required by the College Board that we will be conducting over the course of the year. Preparing the lab activities is a very time consuming process, which means that YOU MUST MAKE EVERY EFFORT TO BE IN SCHOOL AND IN CLASS ON LAB DAYS.

### AP Examination

The AP Biology exam will be on Monday May 8<sup>th</sup>, 2017 at 8:00am. We will thoroughly discuss what the exam will be like, and I will dedicate a couple weeks for review, and a few days before the exam for test taking strategies. I have mapped out the course to make sure that we hit every topic on the exam before May 8<sup>th</sup>. We will also be taking sample tests multiple times throughout the year.

### AP Biology BIG IDEAS

**Big Idea 1** – The process of evolution drives the diversity and the unity of life

**Big Idea 2** – Biological systems utilize free energy and molecular building blocks to grow, to reproduce, and to maintain dynamic homeostasis

**Big Idea 3** – Living systems store, retrieve, transmit, and respond to information essential to life processes

**Big Idea 4** – Biological systems interact, and these systems and their interactions possess complex properties

### Grading

The New Milford Board of Education is in the process of developing a new grading policy for the 2016-17 school year. When this new policy is approved, it will be gone over in detail.

### Practice Tests

You will take one AP practice exam per marking period as preparation for the AP Biology exam in May 2015. These tests will be counted in some way towards your grade as motivation for you to do well on them. These will also be used to monitor your growth throughout the year. You will also be doing practice essays throughout the year as another preparatory measure.

### Website

For a list of updated assignments, including printable downloads for homework, review sheets, and in class worksheets, as well as published PowerPoint's and lecture notes, please visit my Google Page at: <https://sites.google.com/site/mrdevereauxsscienceclasses/> or you can simply Google "Devereaux Science" and it will be the first result.

**Syllabus** (THIS SYLLABUS MAY CHANGE COMPLETELY BEFORE THE FIRST DAY OF SCHOOL)

## Units:

1. Scientific Experimentation and Biochemistry
2. Evolution
3. Cells and Cellular Processes
4. The Genetic Basis of Life
5. Organism Form and Function
6. Interdependence

Dates	Unit	Topic	Coinciding Required Lab	Chapter Readings (6 <sup>th</sup> Edition)	Chapter Readings (8 <sup>th</sup> Edition)	Focuses
9/7-9/13	1	Scientific Experimentation	(Summer Assignment)	1	1	Experimental Design
9/13-9/26	1	Biochemistry	Enzymatic Activity	2,3,4,5	2,3,4,5	Water, Organic Molecules
9/26-10/12	2	Descent with Modification	Artificial Selection	22, 23	22, 23	Darwins Theory, Evolution of Populations
10/15-11/2	2	Origin of Species/History of life	HWE	24,25,26	24,25,26	Speciation, HWE, Life's beginnings
11/5-11/20	3	Cells and Cell Membranes	Diffusion/ Osmosis	7,8	6,7	Cell structure, Membranes, Transport,
11/26-12/18	3	Metabolism and Cellular Processes	Photosynthesis, Cellular Respiration	6,9,10	8,9,10	Metabolism, photosynthesis, cell respiration
12/19-1/4	3	Cell Communication and Division	Mitosis/ Meiosis	11,12	11,12	Cell communication, cellular division
1/7-1/25	4	The Gene, Meiosis, and Chromosomal Inheritance	Mitosis/ Meiosis	13,14,15	13,14,15	Mendelian Genetics, Chromosomes, Meiosis
1/28-2/14	4	Molecular Bio, Gene Expression, and Biotech	Restriction Enzymes, BLAST	16,17,19,20	16,17,18,20	DNA, RNA, Protein Synthesis, Gene Regulation and Expression, Biotech
2/20-3/1	5	Viruses, Prokaryotes, and Eukaryotes	Transformation	18,27,28	19,27,28	
3/4-3/22	5	Plant form and Function	Transpiration	35,36,37,39	35,36,38,39	
3/25-4/17	5	Animal Form and Function	Fruit Fly Behavior	40,42,44,47, 48, 51 (Most in lesser detail)	40,42,45,47, 48, 51 (Most in lesser detail)	Animal Body Structure, Endocrine System, Nervous System, Animal Development, Gas Exchange, Behavior

4/18-5/2	6	Interdependence	Energy Dynamics	50,52,53	52,53,54	Community and Population Ecology
5/3-5/5	All	Review	All	All	All	All
5/8	All	<b>TEST</b>	All	All	All	All
5/10-6/13		TBD				