

**Notice:**

***All summer work is dependent upon your finalized schedule.***

***Attendance at the AP meeting does NOT ensure your enrollment in this course.***

May 15, 2018

Dear Student:

My name is Mrs. Kilar and I will be instructing AP Biology for the 2018-19 school-year. I have included some information about this course in addition to your summer assignment. In order to complete the assignment, you will need to print out the information on the website and pick up your textbook. Please read over the information in this packet and complete the assignment provided. If you have any questions, please email me at [vkilar@rumsonfairhaven.org](mailto:vkilar@rumsonfairhaven.org). We have a lot of work ahead of us before the AP exam on May 13, 2019, but we will have fun along the way. Enjoy your summer and I look forward to seeing you in September.

Sincerely,

A handwritten signature in black ink that reads "Val Kilar". The signature is written in a cursive style with a large, prominent "V" at the beginning.

Mrs. Kilar

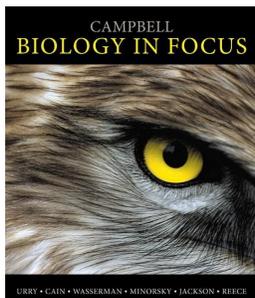
## WELCOME TO ADVANCED PLACEMENT BIOLOGY 2018-19

### Course Overview

This course is designed to be the equivalent of a college introductory biology course usually taken by biology majors in their freshman year. The two main goals are to develop a conceptual framework for modern biology and to gain experience in biology inquiry through laboratory experimentation and field investigations. Much of the studying and learning of the material is left to the student. Class discussions will focus on what may be considered the difficult concepts. This course will provide students with an opportunity to gain confidence about their ability to succeed and excel in future college science courses. The four Big Ideas in AP Biology consist of:

1. The process of evolution drives the diversity and unity of life.
2. Biological systems utilize free energy and molecular building blocks to grow, to reproduce, and to maintain dynamic homeostasis.
3. Living systems store, retrieve, transmit, and respond to information essential to life processes.
4. Biological systems interact, and these systems and their interactions possess complex properties.

### Text



Campbell Biology in Focus, 2<sup>nd</sup> edition.

### Class Materials

Students are responsible for bringing the following materials to class each day: *textbook, calculator, tape, two 2 graph/grid-ruled composition books, pen, pencil, set of colored pencils, and a hi-liter.*

## Grading Policy

Grades will be based in the following areas:

<u>Assessment Area</u>	<u>Weight Value</u>
Tests & Quizzes	65%
Labs /Activities	25%
Homework	5%
Class Participation	5%
<u>Summer Assignment</u>	

Over the summer, you will be responsible for completing a review of pre-requisite information. This assignment will require you to complete questions for various chapters in the book that are now considered prior knowledge in the AP Biology curriculum. All of these topics have been covered in biology and chemistry. You will primarily use the content of your book to complete this assignment but you may need to use other sources as well. You are to complete the following:

- A. Join our Google Classroom. The code is **r0n5im**. The summer assignment will be posted on our Google Classroom. I will also begin posting class information and study materials for the summer unit a week or two before school begins.
- B. Use the textbook to complete the PDQs (Pre-discussion Questions) for Ecology (Chapters 39 - 43). This assignment will help you with the test you will have during the first week of class. The PDQs must be submitted to turnitin.com by the first day of school and **you should also submit a hard copy in class**. All future PDQs will be hand-written in your notebook.
- C. Choose **one** chapter from the Ecology Unit to complete notes. Your ability to take notes in this course is essential for developing a solid understanding of the content. You may use your PDQ to guide your note-taking, which should summarize the most important topics. You may choose to complete your notes using one of the following methods: Cornell Note-taking, Graphic Organizer(s), or Sketch Notes. See examples in the Google Classroom post. The notes can be hand-written or typed. You may choose to take notes for all chapters but only notes for one chapter is required.
- D. Complete the Graphing Pre-test. You may print out a copy or write your answers on a sheet of graph paper.
- E. Be prepared for a unit test to be administered in class on ecology during the second week of school. The test will include the following sections: multiple choice, computation, short free response, and long free response. This test will count as the first test grade.

## Turnitin.com

All guided readings, projects, and lab reports will be submitted to [www.turnitin.com](http://www.turnitin.com). It is your responsibility to create an account if you have not done so already and add your name to the class on the website. Failure to submit an assignment before the deadline will result in a late penalty. Computer problems are not an excuse so make sure you give yourself adequate time and make arrangements for using a properly functioning computer. Please use the following information to add your name to the AP Biology class on turnitin.com.

Class Name: AP Biology 2018-19

Class ID: **18109705**

Password: APBIO2018

## AP Biology Course Timeline:

	TOPICS	MONTH
<b>I.</b>	<b>Molecules and Cells</b>	
	A. Chemistry of Life	Sept
	1. Organic molecules in organisms	
	2. Water	
	3. Enzymes, coenzymes, cofactors, rates of activity, regulation	
	B. Cells	Oct-Nov.
	1. Prokaryotic and eukaryotic	
	2. Membranes	
	3. Subcellular organization	
	4. Cell communication	
	5. Cell cycle and its regulation	
	C. Cellular Energetics	Nov
	1. Coupled reactions, free energy, chemiosmosis, ATP	
	2. Photosynthesis	
	3. Fermentation and cellular respiration	

<b>II.</b>	<b>Heredity and Evolution</b>	
	A. Heredity	Dec
	1. Meiosis	
	2. Eukaryotic chromosomes	
	3. Inheritance patterns, Mendel's Laws, probability	
	B. Molecular Genetics	Dec-Jan
	1. RNA and DNA structure and function	
	2. Gene regulation	
	3. Mutation	
	4. Viral structure	
	5. Nucleic acid technology and applications	
	C. Evolutionary Biology	Jan-Feb
	1. Early evolution of life, Darwinian evolution, population genetics	
	2. Evidence of evolution	
	3. Mechanisms of evolution	
	4. History of Life	
<b>III</b>	<b>Organisms and Populations</b>	
	A. Diversity of Organisms	Feb-March
	1. Evolutionary patterns, phylogenetic classification	
	2. Survey of the diversity of life	
	B. Homeostasis in Living Organisms	April
	1. Homeostatic mechanisms in Plants	
	2. Homeostatic mechanisms in Animals	
	3. Homeostasis of Human Systems	
	a. Immune System	
	b. Endocrine System	
	c. Nervous System	
	C. Ecology	Summer/Sept.
	1. Introduction to Ecology	
	2. Communities and ecosystems, energy flow, productivity, species interactions, succession, biogeochemical cycles	
	3. Population dynamics, biotic potential, limiting factors	
	4. Ecosystems	
	5. Human Impact/Conservation Ecology	
	6. Behavior	
<b>IV.</b>	<b>Review</b>	May
<b>V.</b>	<b>Final Project</b>	May-June





