Dear Students,

Congratulations on enrolling in AP Biology for the 2014-2015 School Year! I am eagerly anticipating a great year for AP Biology. In order to ensure the best start for everyone next fall, I have prepared a summer assignment that reviews basic biology concepts. I also encourage you to work with your classmates as talking with one another about the material will help you recall and remember the material in preparation for class.

Much of the material in the summer assignment should be familiar to you. The problems will help you review the foundational skills you acquired in chemistry and biology and ensure that all students are on a relatively even plane. Keep in mind that the AP Biology (along with other AP science courses) curriculum has changed to a more conceptual understanding of the course material. There are fewer algorithmic calculations and more emphasis is placed on an understanding of what the data and results mean rather than just calculating them.

It will be important for everyone to come to class on the first day prepared. While much of AP Biology touches on what was taught in Biology Honors, there is considerable depth and speed in dealing with the content. If you are coming to AP Biology as a Junior, expect this course to be an extra challenge for you; please seek help from a peer or myself if you start to feel lost. While we review, extensive tutoring is not an option as we work towards our goal of being 100% prepared for the AP Exam in May 2016. Working together to discuss and grapple with the material will prepare you well both now and throughout the year.

There will be a test covering the basic concepts included in the summer assignment on the third day of school. This test will cover all the material you will review by successfully completing the summer assignment; it will be worth 100 points and count toward your quarter 1 grade.

It is also important that you realize up front how your performance in this course will be measured. Grades will mainly depend on class participation, quizlettes, homework, unit tests, multiple lab reports, and a few special topic assignments or projects. Be aggressive in pursuit of knowledge not just grades.

As you work on the summer assignment, you may contact me via email: martinezc@stcecilia.edu this summer. I will do my best to answer your questions ASAP.

Finally, I recommend that you spread out the summer assignment. Please do not try to complete it all in the final week of the summer. Biology takes time to read and process and working a few problems each day will prove to be an excellent practice in developing the study skills for any college science class. Remember, AP Biology is an equivalent course to Introductory Biology in college.

Continue having a great summer and enjoy preparing for AP Biology! ☺

+Ad majorem Dei gloriam+
Mr. Martinez
Assignment #1

- Using your school email, email Mr. Martinez to confirm that you have received a copy of the summer assignment.

Assignment #2

- Obtain the AP Biology textbooks listed below NOW and begin reading and reviewing chapters 1-4 in Campbell Biology:

by Reece, Taylor, Simon, Dickey, and Hogan


- AP Biology Investigative Labs: An Inquiry-Based Approach, Student Manual. This lab manual is available on the AP Central website for $22.00 and can be found [here](#). Allow ample time for shipping so that you have this by the first day of school.

- Choose and purchase a spiral-bound or bound lab notebook of your choice that makes a duplicate copy of your notes as you write. Examples can be found [here](#). Versions can also be found at most textbook and college bookstores.

- Choose and purchase an AP Biology review book of your choice. Make sure you get a new version as the course and exam formats changed in 2012. I do NOT recommend a used edition.

Assignment #3

*Read chapter 4, pages 50-70.* During your reading, I highly suggest you keep an up-to-date vocabulary list or notecards or quizlet (online) organization of the terms listed below. Don’t just list the vocabulary definitions, but include additional information that addresses the following:

- In what way(s) does this structure function?
- Where is this structure located within a cell?
- What else appears important to remember about this structure? Does it have any “specialized” roles?
- Is this structure unique to plant or animal cells? Do they both have it?

**DUE:** First Day of School.

<table>
<thead>
<tr>
<th>Chapter 4 Vocabulary</th>
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<tbody>
<tr>
<td>Light microscope</td>
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<tr>
<td>Magnification</td>
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<tr>
<td>Resolution</td>
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<tr>
<td>Cell theory</td>
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<tr>
<td>Electron microscope</td>
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<tr>
<td>Scanning electron microscope</td>
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<tr>
<td>Transmission electron microscope</td>
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<tr>
<td>Prokaryote</td>
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<td>Nucleus*</td>
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<td>Nuclear envelope*</td>
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<td>Nucleolus*</td>
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<tr>
<td>Endomembrane system</td>
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<tr>
<td>Vesicles*</td>
</tr>
<tr>
<td>Smooth endoplasmic reticulum*</td>
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<tr>
<td>Rough endoplasmic reticulum*</td>
</tr>
<tr>
<td>Glycoprotein</td>
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Assignment #4

- Drawing an Animal Cell

After reading chapter 4 and completing the vocabulary, draw a picture of an animal cell that correctly identifies and labels the items above listed with an asterisk (*). This drawing should be on a white poster board without any pre-made/printed materials. Feel free to use your textbook and any other book or internet resources as a guide for your drawing. Please make sure your name is on it!

**DUE:** First Day of School.

Assignment #5

- Drawing the Cell Membrane and the Extracellular Matrix

On a standard, 8.5 x 11 inch piece of white printer paper, draw and color a cross-section of an animal cell membrane and extracellular matrix. Correctly identify and label the region(s) that are hydrophobic and hydrophilic. Also, please include examples of glycoproteins, integrins, and cytoskeletal structures in your drawing. Please make sure your name is on it!

**DUE:** First Day of School.
Assignment #6
  ▪ Drawing Cellular Junctions

  On another, standard 8.5 x 11 inch piece of white printer paper, draw and color two cells adjacent and connected to one another. Correctly identify and label the three (3) types of junctions that connect cells together. Please make sure your name is on it!

  **DUE:** First Day of School.

Assignment #7
  ▪ Start your AP Biology binder, complete with:
    ▪ Paper
    ▪ Tabs for sections on: Notes and Vocabulary, Handouts, Quizlettes, Tests, Labs, Reports, and Special Topics.

  *note: I do not want to force you to study in a way that is not helpful for you, so if you’d prefer to make flashcards for vocabulary or keep it in a separate section or include it in your notes for each chapter, that is ok with me!