**READING GUIDE – SECTION 1**

Read the sections described below and answer all of the following questions. Highlight or take notes as you see fit, but keep in mind that taking detailed notes may not be the best use of your time. Use course learning objectives and the reading guide questions to focus your reading. Answers to some of the reading guide questions can be easily found in the text, while others will require synthesis of information you read. Concepts related to synthesis questions will be discussed further in class; you are not expected to fully grasp all concepts from the reading prior to class.

***Read the chapter in your book on the aqueous environment of the cell (water).*** Much of this chapter reviews concepts that were covered in prerequisite coursework and therefore you should decide how much time you need to review these concepts. In addition to review, parts if this chapter will also help you place your prior knowledge into a biochemical context. Pay special attention to the following concepts:

* Weak interactions in aqueous systems
* Titration curves reveal the pKa of weak acids
* Buffering against pH changes in biological systems

***Reading Questions:***

1. What solvent is typically used when studying biomolecules and why?
2. What do hydrogen bonds, ionic interactions and van der Waals interactions all have in common?
3. Why is the term “hydrophobic interaction” a misnomer?
4. What information does Ka value communicate about a weak acid? How are Ka and pKa related?
5. What are 1-2 concepts you continue to struggle with from the reading?
6. Write one broader question that reading raises for you. This question could relate to applications of concepts to medicine, research, etc.