



# FUNDAMENTAL FOUNDATIONS

## A PEER LED STUDY-BY-SUBJECT GUIDE

### BIOCHEMISTRY

#### GETTING STARTED

*"The most successful students use as many learning strategies as possible."*  
Allison B., Pharmacology and Toxicology '13, peer tutor

*"Learn all the processes in detail and understand what you are learning, rather than just recite what you memorized."* Maryana T., PharmD '13, peer tutor

*"It is important to seek other viewpoints and knowledge through different resources like friends, and especially tutors, who can explain things from their own point of view, which may help you understand."* Christina K.,  
Premedical and Health Studies '13, peer tutor

#### ACTIVE LEARNING STRATEGIES

- Study with a friend. Read the processes to each other multiple times. Take turns going over the various mechanisms in small study groups.
- Take notes, draw charts, and use those other active learning strategies to process and organize the information in your own words.
- Teach it to someone! When you explain the whole thing to someone, you may find out where you have holes in your information. Take turns going over the various mechanisms in small study groups.
- Make visual aids for the complicated mechanisms, pathways, and processes. Draw a flow chart, sketch a picture, make a video, whatever works for you.
- While studying, stop every now and then and think about what kind of question could be asked about what you just read. Try to understand *why* you need to know the information.
- When using flashcards, take the time to write each answer out on a separate piece of paper, or say it out loud in full sentence, before looking to see if you were right, to make sure you know the material.
- Get a white board and write out the processes on the board, and then check your answers and correct any mistakes. Then try to write the process again without any mistakes. Keep at it until you are correct!
- If necessary, review basic biology and chemistry concepts when they come up in class. It is important to be able to apply the knowledge of chemistry and biology to the processes of our bodies.
- Record and re-listen to the lectures with the professor's permission. Add comments and questions to your notes while you are re-listening to the lecture to help you better grasp the information.

#### TACKLING THE TEST

Complete the questions you know first. Then use context clues, other questions, and the process of elimination to answer the remaining questions.

Circle, box or underline the important key words.

Keep your initial answer unless you have a clear reason to change it. If you can't explain why it is wrong, don't change it.

Write out the entire process on scrap paper provided by the professor before trying to tackle the question. This will help you avoid confusion or mix-ups.

## DO'S AND DON'TS

### **Do...**

- Use as many learning strategies as possible. Draw, write, speak, listen, read, and have fun.
- Study the general overview and the details, and actively make connections between the two.
- Talk with friends and tutors to help you understand the material inside and out.
- Practice, practice, practice! Continuously repeat processes and key components.
- Understand what you are learning and why it is important.

### **DON'T...**

- Focus only on the details, or only on the overall processes. You need to understand the concepts and the details, and make connections between them, to do well in the course.
- Learn processes and information only on a surface level. The small details in mechanisms are important.
- Only study alone. Studying with others may help you identify gaps in your knowledge.
- Wait until the last minute. There is a lot of information and it requires consistent effort to understand it.

## MEMORY TIPS

- Go over the process multiple times to drill the mechanisms into your mind. Repeat and go over the processes until you fully understand them.
- Make it silly. If you can make it funny for yourself, you will remember it better. Build it out of Legos, make up a puppet show, write a song, anything you can do to make each thing unique and fun.
- Go to every single class. Expose yourself to biochemistry as frequently as possible.

## FINISHING YOUR FOUNDATION

*"Study specifics and overall processes. You need both, and it might seem like a lot, but remember that if you keep trying to connect them, you will learn the concepts as you study the details, and the details will come back to you as you study the concepts. It might be easier to memorize each subunit or each step in the process, but you will be in a much better position if you know how each relates to the other."* Allison B., Pharmacology and Toxicology '13, peer tutor

*"There are a lot of processes that have to be memorized in detail in order to succeed in both sections of the class. I suggest rewriting the processes in a concise way to make it easier to visualize. When a process is written out step by step, it makes it easier to learn."* Maryana T., PharmD '13, peer tutor

*"Personally, I like to see a general overview before I go into the details that I am supposed to know for the exam. Otherwise, jumping straight into the details without knowing the main, general points, can be overwhelming. Once you know the general process, each step will make more sense in reaching your endpoint and purpose of what you are trying to learn and you will be able to predict what happens next and why each step makes sense."* Christina K., Premedical and Health Studies '13, peer tutor

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**Please note: This handout is a compilation of resources provided by peer tutors and academic support professionals. This information is meant to supplement recommended study techniques provided by course professors, peer tutors, the Math Center, the Writing Center, and the Academic Resource Center. They are not intended as a replacement for MCPHS resources, faculty and staff, class attendance, course syllabi, or course materials. For additional information, please contact the Academic Resource Center at 617.732.2860.**