



# Fall 2022 MCAT Biochem Passages Workshop

## Syllabus

### Part 1: Course Information

#### Instructor Information

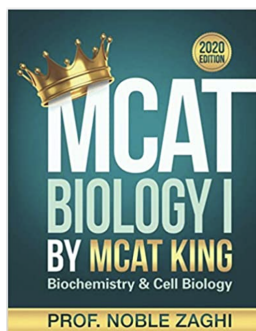
- **Instructor:** Josh McCartney
- **Office:** 345 East 37th St. Suite # 316, New York, NY 10016
- **Contact Hours:** 9am-5pm Weekdays
  - **E-mail:** [josh@mcating.com](mailto:josh@mcating.com)

#### Course Description

- We will work through passages and questions that address key facets of the high yield biochemistry content on the MCAT. We'll drill passage strategies and recall techniques, and simplify experimental design. Lastly, as always, we will pay special attention to test-taking skills, as well as covering incorrect answer pathologies. This class is taught by Josh over Zoom.

#### Textbook & Course Materials

- **Required Text(s):**
  - [MCAT Biology I by MCAT KING: Biochemistry & Cell Biology](#)



ISBN-13: 978-1733990608

ISBN-10: 1733990607

- **Additional Recommended Resources:**

- [Khan Academy MCAT](#)
  - [Practice Passages](#)
  - [Biomolecules](#)
  - [Cells](#)
  - [Chemical Processes](#)
- [Anki](#)
  - (Scroll down, find the operating system you are running, and you will be able to download the app)
  - [Download link page for the best MCAT Anki Deck \(MileDown's Deck\)](#)
    - (Download this, open Anki, hit file, import, and find the MileDown Deck file)
  - [YouTube Video on using Anki for the MCAT](#)
- Other resources and readings will be made available throughout the course.

## Course Requirements

- Strong internet connection
- A quiet space with an appropriate background for 2-hour zoom meetings

## Online Course Structure

This is a fully-online course. All course activities and resources will come from this syllabus, our workshop slides, and via email. At designated times throughout the course, you will be asked to complete an *extremely short* survey that will help me tailor our work to your needs.

We will blend review of high-yield, foundational Biochemical concepts with group-paced work on practice passages and questions. All of the learning activities will be completed either during the workshop meetings or on your own time between classes.

**Important Note:** This syllabus, along with course assignments and due dates, are subject to change. It is the student's responsibility to check the syllabus weekly for corrections or updates. Any changes will be clearly noted via email and in course announcements.

# Part 2: Objectives

## Course Objectives

- To build a foundation for deeper understanding and control of the high-yield Biochemical content on the MCAT
- To gain comfort and confidence using expert strategies and techniques to tackle complex Biochemical passages and discrete questions
- To learn and diligently apply the MCAT study methods that best fit your learning style

and preparation environment

You will meet the outcomes listed above through a combination of the following activities in this course:

- Attend all class sessions. Watch and engage with recording of any classes that you cannot attend.
- Participate regularly in class discussions.
- Complete assignments in a timely manner before the following class meeting.

## Part 3: Topic Outline/Schedule

**Important Note:** Refer to the course calendar for specific meeting dates and times. Activity and assignment details will be explained in detail within each week's corresponding module. If you have any questions, please contact your instructor.

| Week | Date       | Topic                       | Assignments                                                                                    |
|------|------------|-----------------------------|------------------------------------------------------------------------------------------------|
| 1    | Sept. 22nd | Introduction & Cell Biology | Read Ch. 1-2<br>Anki<br>Practice Passages                                                      |
| 2    | Sept. 29th | Amino Acids                 | Read Ch. 8 pg. 124-130<br>Memorize Amino Acids<br>Anki<br>Practice Passages                    |
| 3    | Oct. 6th   | Peptides & Proteins         | Read Ch. 8, pg. 136<br>Continue amino acid memorization<br>Anki<br>Practice Passages<br>Survey |
| 4    | Oct. 13th  | Nucleotides & Nucleic Acids | Read Ch. 3-4<br>Memorize Nucleotides<br>Anki<br>Practice Passages                              |
| 5    | Oct. 20th  | Enzymes & Enzyme Kinetics   | Read Ch. 9<br>Memorize Enzyme Types<br>Memorize Inhibitors<br>Anki                             |

|     |           |                               |                                                                                                                                                                                        |
|-----|-----------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |           |                               | Practice Passages                                                                                                                                                                      |
| 6   | Oct. 27th | Metabolism I                  | Read Ch. 8 pg. 136-145<br>Memorize Glycolysis<br>Memorize TCA & ETC<br>Anki<br>Practice Passages                                                                                       |
| 7   | Nov. 3rd  | Metabolism II                 | Read Ch. 8 pg. 145-146<br>Continue glycolysis, TCA, &<br>ETC memorization<br>Memorize Inputs / Outputs /<br>Rate-limiting steps for rest of<br>metabolism<br>Anki<br>Practice Passages |
| 8   | Nov. 10th | Biochemical Lab<br>Techniques | Read Ch. 5<br>Read Extra Slides<br>Anki<br>Practice Passages                                                                                                                           |
| 9   | Nov. 17th | Carbohydrates & Lipids        | Read Ch. 8 pg. 130-136<br>Memorize Sugar Structures<br>Anki<br>Practice Passages                                                                                                       |
| 10* | Dec. 1st* | Cell Cycle & Genetics         | Read Ch. 6-7<br>Memorize Hardy-Weinberg<br>Equation forms I & II<br>Memorize Pedigrees<br>Anki<br>Practice Passages<br>Quiz<br>Survey                                                  |

## Part 5: Course Policies

## **Participation**

As this is an online course taught via-zoom, your participation is key to your and your fellow students' success. You will each gain more from this exercise if you provide regular input as we move through the topics and practice material. Students are expected to participate in all activities as listed on the course calendar.

## **Expectations**

**All assignments for this course should be completed prior to the following class meeting.**

This is not a collegiate course and there is no grading. However, should you choose to forgo assignments, you will be a detriment to your classmates in discussion, and you will do yourself a disservice in your preparation for the MCAT. If you cannot complete the minimal workload in this course, the rigors of future medical education may be beyond you.

If, at any time, you find it difficult to keep up with the coursework or discussion, make sure you let me know as expeditiously as possible.

**Important Note:** Do not share course material in any form with anyone outside of this class and your instructor.