

#### COURSE DESCRIPTION

This course examines biochemical reactions in living systems, investigating functional groups, essential compounds, and metabolic pathways in eukaryotic cells. Biochemistry is foundational to understanding the chemical dynamics of physiology, nutrition, pharmacology and herbology.

#### LEARNING OBJECTIVES

The student will come to understand the organization and interaction of functional groups in biochemical reactions and will be able to understand the flow of metabolic pathways.

#### COURSE PREREQUISITES

Chemistry

#### REQUIRED TEXTS

Ferrier, D. R. (2014). **Biochemistry**. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins. (Lippincott's Illustrated Reviews) 6th Ed. ISBN-13: 978-1451175622

Biochemistry Course Manual– see [EmperorsWesternScience.wordpress.com](http://EmperorsWesternScience.wordpress.com) to purchase

#### RECOMMENDED TEXTS

Lieberman, Michael. **Marks' Basic Medical Biochemistry: a clinical approach** 4<sup>th</sup> Edition 2013 Lippincott Williams & Wilkins, Baltimore, MD ISBN-13: 978-1608315727

#### COURSE REQUIREMENTS

Module 1 exam = 50%

Module 2 exam = 50%

GRADING SCALE: 100-90% A, 89-80% B, 79-70% C, 69% and below F

#### SPECIAL NOTES

**No texting or phone use permitted in class. No video recording is permitted under any circumstances.**

**Professionalism and Full and Prompt Attendance:** To pass any course (separate from academic performance) all students must meet requirements for professionalism in coursework. Professionalism includes full and prompt attendance: students who miss more than 2 class meetings in a 10-week course or 1 class meeting in a 7-week course will earn an F in that course. Additionally, students who arrive more than 15 minutes to class or leave class before it ends will be given ½ absence towards attendance. NOTE: Students who leave and return to class late from a break or leave during the class (especially if this is repeated) or who disrupt the class in other ways may earn an F in that class and/or be referred to the Academic Dean for professionalism.

CLASS ONE (The syllabus is subject to change at the discretion of the instructor.)

Enzymes, Carbohydrates I

Assignment: Lippincott's Illustrated Reviews pp. 53-68, 69-172

CLASS TWO

Carbohydrates II

Assignment: Lippincott's Illustrated Reviews pp. 69-172

CLASS THREE

Carbohydrates III

Assignment: Lippincott's Illustrated Reviews pp. 69-172

CLASS FOUR

Proteins I

Assignment: Lippincott's Illustrated Reviews pp. 1-68, 245-257, 441-434

CLASS FIVE

Proteins II

Assignment: Lippincott's Illustrated Reviews pp. 1-68, 245-257, 441-434

**CLASS SIX**

**MODULE 1 EXAM**

CLASS SEVEN

Lipids I

Assignment: Lippincott's Illustrated Reviews pp. 173-244

CLASS EIGHT

Lipids II

Assignment: Lippincott's Illustrated Reviews pp. 173-244

CLASS NINE

Nucleic Acids I

Assignment: Lippincott's Illustrated Reviews pp. 291-306

CLASS TEN

Nucleic Acids II

Assignment: Lippincott's Illustrated Reviews pp. 291-306, 395-430

**CLASS ELEVEN**

**MODULE 2 EXAM**

REFERENCE MATERIAL

will be provided as necessary

FACULTY INFO

Please contact Dr. Downie with questions at [docdownie.emperors@gmail.com](mailto:docdownie.emperors@gmail.com)

Check for Course notes, materials and Course Manual links at [EmperorsWesternScience.wordpress.com](http://EmperorsWesternScience.wordpress.com)