

## ABIO 542: Principles of Biochemistry II (3 credit hrs)

Spring 2005 (MWF 9:00 - 9:50)

**Instructor:** Dr. James Yates (Rm 205) (X3390)

Office hours by appointment only (M, Tu & W 10 – 11 & any mutually convenient time)

**Text:** Biochemistry 3<sup>rd</sup> Ed. (Garrett & Grisham)

**Course Goals:** (1) To introduce students to basic theoretical and practical concepts of Biochemistry: including: the biochemistry of Oxygen transport, carbohydrate metabolism, oxidative phosphorylation, electron transport, and monomer metabolism. (2) Provide students with the opportunity to investigate recent discoveries in the field. (3) The concepts of Biochemistry will be integrated with basic concepts of other areas of Biology and Chemistry.

**Organization of Course:** The course is organized into several topics. Students are expected to use the reading list below to determine the reading assignments. The lectures will be interactive. ***Students are expected to read the material before class (be prepared to discuss the material during lectures).***

### Grading Policy:

Weekly Quiz	80%
Final Quiz	5%
Report	10%
Class Participation	5%

The report will consist of a review of one research article that examines one or more of the concepts presented in the lectures. Students should make use of the search engines available in the library (and elsewhere) to identify potentially acceptable articles. Each student must present the abstract to me by midterm (3/1/05). If the article is acceptable the student will use it to prepare the report. If it is not, the student must find other articles and present the abstracts to me ASAP.

**Assessment of Students:** Students will be evaluated on their performance in all of the following: weekly quizzes, a final quiz, the written report and ***especially*** participation in class discussions.

**Student Competency:** To successfully complete this course, a student must demonstrate a basic understanding of the principles and applications of the chemistry and molecular logic of living cells including: structural, functional and kinetic characteristics of cellular components.

**Statement for Disabled Students:** "If you have a physical, psychological or learning disability which might affect your performance in this class, please contact the Office of Disability Services, 126 B&E Building (641-3690) as soon as possible. The Disabilities Services Office will determine appropriate accommodations based on medical documentation."

### COURSE OUTLINE

<u>Topic</u>	<u>Chapter</u>
Review	** (various chapters) (Chapter 14)
Oxygen transport	15 (p. 491 – 502)
Metabolism (Overview)	17.1 & 17.2
Glycolysis	18
The TCA Cycle (summary)	19.2-19.8
Electron Transport & Ox Phos	20
Carbohydrate metabolism	22
Fatty Acid metabolism	23

**Final** ☺

**5/2/05 @ "8:00 to 11:00"**