Chem 473 – Biochemistry II Spring 2020

When & where:	Tu/Th 11:00 am – 12:15 pm (Coulter 204)
Instructor:	Dr. Susan Pedigo (spedigo@olemiss.edu)
Office Hours:	Wed 8-10 am, Th 8-10:30 am in room 179 or 122 Coulter Hall
Text:	Principles of Biochemistry- Lehninger 7th Edition, Worth Publishing
Hourly Exam Schedule:	Exam 1 – Th Feb 20, Exam 2 – Th Mar 26, Exam 3 – Th Apr 23
Final Exam:	Tues May 5 @ noon

Goal of class: This class is devoted to a comprehensive study of metabolism. Pathways that are common to mammals are of primary concern. We will discuss in detail allosteric and hormonal regulation of these pathways. We will cover tissue specific function in humans and the molecular details of diabetes.

Learning Objectives: Students are expected to master the details of the transformations of biological molecules involved in intermediary metabolism including 1) the energetic driving forces and coupling of reactions, 2) organ specific metabolic functions in humans with special attention to the liver, brain, muscle and adipose tissues, 3) hormonal and metabolite control over key regulatory enzymes in the major carbohydrate and lipid processing pathways, and 4) the molecular origins of the physiological manifestations of diabetes, particularly Type II diabetes.

Texts: It is essential to find another source of information other than class notes. Read appropriate material in Ch 13-19 and 21-23 in the textbook. Several alternative textbooks are on reserve in the Science Library.

Honor Code: *Academic integrity is essential to all the values upon which the university is founded. Students must therefore embody academic honesty in all aspects of their work. A student with a documented case of plagiarism or academic cheating in this course will face disciplinary actions including a zero on the assignment, a note in their permanent record, and revocation of the forgiveness policy. Students who cheat on the final exam will fail the course.*

Calculators, cell phones and smart watches: You may not use hand-held cellular devices in my class, neither during class nor during exams. Empty pockets/wrists of electronic devices during exams and stow them. If you have them on you during the exam, it is considered cheating.

Quizzes: Quizzes will include the structures of carbon skeletons, enzyme names, and relevant cofactors and other products or reactants in the pathways. Learning these pathways is the responsibility of students. You will have between ~ 5 minutes to complete the in-class quiz. This requires thorough preparation in advance.

Hourly Exams: Format will be mixed including multiple choice and short answer (chemical equations, True/False, fill in blank, explanations). Please make handwriting as clear as possible. Pathway quizzes will be used as support documents on hourly exams, but not the final exam.

Attendance Policy: Attendance is mandatory.

Graded Assignments: Your numerical grade for the course will comprise ~ 7 Quizzes (10 %), and 3 hourly exams and a final exam (22.5% each). The final exam is the ACS certified biochemistry exam and covers topics in both semesters of the course.

Missed work: **No Make-up EXAMS**! Your score on the ACS Biochemistry Exam will be used as the grade for one missed exam if you have an excused absence. A missed quiz can be made up by arrangement, but you must provide a written excuse.

Appeal of grading on an exam: If there is an error on an exam, you have one week to appeal the grade after the exam is returned to you. You must check Blackboard regularly to make sure that the grade you earned is actually entered in the BB grade book.

Assigned Grades: Grades will be assigned according to the following scale. If the scale is changed, it will be in your favor. A = 90 to 100%, B = 80 to 89%, C = 70 to 79%, D = 60 to 69%, F = <59%. **I will assign a grade based on careful consideration of your performance.**

Posting of final grades: The value posted on BB will be the larger of either the national ranking on the ACS exam or your raw %. National ranking on the ACS exam in my class ranges from the 100th to 6th percentile. At a raw score of ~ 56% your raw % will exceed the national ranking.

Topics- in order
Syllabus; Review and Overview
Ch 13. Energetics
Ch 14. Glycolysis and Gluconeogenesis
Ch 15. Glycogen and Glucose Homeostasis
Ch 16. Citric Acid Cycle
Ch 19. Oxidative Phosphorylation
Ch 17. Lipid Catabolism
Ch 21. Lipid Anabolism and Lipid Homeostasis
Ch 18. Amino Acid Catabolism
Ch 22. Nitrogen compounds
Ch 23. Integrated Metabolism and Diabetes

Projected dates for graded assignments

Date	Assignment
4-Feb	Q1- Glycolysis +
6-Feb	Q2- Glycogen
20-Feb	Exam 1
25-Feb	Q3- CAC
27-Feb	Q4- OxPhos
5-Mar	Q5- beta OX
17-Mar	Q6- Cholesterol-KB
26-Mar	Exam 2
2-Apr	Q7- Urea
23-Apr	Exam 3