Prerequisite: 3153, 3423 or 3453, 3653 or equivalent. The first semester of a two-semester sequence covering the fundamental principles of protein structure and function, enzymology, carbohydrate and lipid metabolism, biochemical energetics, membranes, nucleic acid and protein metabolism, information transfer and the genetic code, genomic and proteomic analyses, the interdependence of biochemical pathways, and additional new topics as dictated by current biochemical literature. 3.000 Credit hours. This is an Undergraduate/Graduate level, cross-listed course.

Instructor: Phillip E. Klebba, Ph. D.
Professor of Chemistry and Biochemistry
Office 130Q PHSC
Office hours: Thursday 8:00a - 9:00a, and by appointment.

Textbooks:
Biochemistry, 6th Edition
Jeremy Berg, John Tomoczyko and Lubert Stryer. W.H Freeman

Molecular Biology of the Cell, Fifth Edition
Bruce Alberts, Alexander Johnson, Julian Lewis, Martin Raff, Keith Roberts, Peter Walter

Wood, W.B., Wilson, J.H., Benbow, R.M. & L.E. Hood
Benjamin Cummings ISBN 0-8053-9840-6

Description: This advanced class in biochemistry will cover concepts, structures, pathways and mechanisms relevant to the understanding of current biochemical research, as facilitated by critical study of articles from the literature. The class will emphasize functional knowledge of the subject matter, including problem solving. Each week Dr. Klebba will select an article or articles from the scientific literature for consideration by the class. Based on preliminary readings and discussions of the topic, his subsequent lectures will address the fundamental biochemistry behind the research. After the analysis of each research article or topic, students will complete an in-class or take-home quiz on the subject matter, that may involve theoretical concepts, problem solving, or a scientific critique of the paper. Because the class is founded on discussion of current biochemical literature, please consult the class web page for pertinent articles and readings:
http://learn.ou.edu/d2l/lms/content/preview.d2l?tid=1162205&ou=1652875

Grading: The final grade will derive from the quizzes (70%) and a cumulative, two-hour final examination (30%).