Class meets on Wednesdays at 10:00 AM in 230 MRB

Objective: Students will learn to read and discuss recent literature that illustrates current topics and methods used to study metabolism. Each week we will discuss a paper that focuses on a general topic of metabolism or a topic recently covered in BC 403 lectures. Initially, the instructor will present an overview of the field and then lead a discussion of the specific experiments in the assigned paper by randomly calling on students to explain the methods employed and the interpretation of the data presented in specific figures. During the course, each student will select a topic of his or her interest, present the initial overview and lead the discussion of the paper. As a result students should gain a greater awareness of current topics in metabolism and the methods currently used to study this area of biochemistry. In additions, students will enhance their oral communication skills and gain confidence in their ability to discuss current topics in this field.

Jan 23 1 Course Overview and Organization
Jan 30 2 Curthoys - Hyperinsulinemia drives diet induced obesity
Feb 6 3 Curthoys – mTORC2 activates glycolysis through Akt
Feb 13 4 Curthoys - Glucokinase modulates obesity
Feb 20 5 Curthoys - AMPK suppresses tumor growth
Feb 27 6 Samantha Buck - O-GlcNAc transferase regulates gluconeogenesis
Mar 6 7 Caleb Schmidt- Acetylation regulates glycogen phosphorylase
Mar 13 8 Christine Owen - Glycogen breakdown sustains tumor proliferation
Mar 27 9 Zach Dickerson - Stabilization of respiratory supercomplex
Apr 3 10 Caitlin Kalmbach - Mitochondrial pyruvate transporter
Apr 10 11 Margaret Gruca - Silencing Lipid Genes lowers plasma lipid levels
Apr 17 12 Curthoys - Mitochondrial phosphoproteome reveals control of ketogenesis
Apr 24 13 Ryan Olson - Role of dicer in adipose longevity
May 1 14 Curthoys - Transient ROS signal extends life span
May 8 15 Curthoys - Decreased AMP synthesis increases life span
Grading: Letter grades - For each class, students will be evaluated on their understanding of the material covered in the assigned reading, their ability to explain specific experimental methods, and their level of participation. The combined grades for each class will determine 60% of their final grade. The remaining 40% of their grade will determined by evaluating their presentation for organization of material, clarity of the presentation, demonstrated understanding and ability to lead the discussion.