Final Exam

Monday, May 8

3:30 PM - 5:30 PM, Bio/Bio 107

~ 66 3 point questions
multiple choice
definitions
structure drawing

200 points
Final Exam Material
(not limited to the topics listed in each category)

Protein Structure (lecture set #4)
• 1°, 2°, 3°, 4° structure
• examples of each level of structure and how they form
• hemoglobin and myoglobin structure & function

DNA: structure & replication (lecture set #9)
• nucleotide names and categorization
• DNA double helix structure
• DNA replication

RNA: transcription & translation (lecture set #10)
• RNA structure
• details of transcription
• details of translation

Glycolysis (lecture set #13)
• know how to draw complete glycolysis
• know name of all glycolysis enzymes
• be able to put structures and enzymes in order

TCA Cycle (lecture set #15)
• do not have to know how to draw structures
• know enzyme names and be able to put them in order
• importance of TCA cycle to catabolism/anabolism
• regulation points
Final Exam Material
(not limited to topics in each category)

\( e^- \) transport/oxidative phosphorylation (lecture set # 16)
- order of \( e^- \) transporters in each complex
- ATP synthase mechanism

Lipid Metabolism (lecture set # 17)
- \( \beta \)-oxidation, basics of what happens at each step
- F.A. biosynthesis, basics of acetate-malonyl condensation and following steps
- isoprenoid pathway, know general scheme of how isoprenoids are made
- cholesterol biosynthesis, name and carbon # of important intermediates
- know how LDL regulates cholesterol biosynthesis
- know function of HDL

Photosynthesis (lecture set # 18)
- chloroplast structure
- chlorophyll function
- know z-scheme and \( e^- \) transfer pathway in PSII and PSI
- know dark reactions, names of intermediates for \( CO_2 \) fixation to glucose
- know how specifics of \( C_3 \), \( C_4 \), CAM types of photosynthesis how they differ from each other

Nitrogen metabolism (lecture set #19)
- know how \( N_2 \) is converted to \( NO_3^- \) and \( NH_3 \)
- involvement of N in amino acid synthesis
- know basics of urea cycle and
- know basics of purine/pyrimidine biosynthesis