

BIL 257 - Honors Readings in Biology – CMB Anaerobic – Aerobic Metabolism & Regulation

Topic Examples

- 1) Characterization of any metabolic enzyme
- 2) Lactic Acid metabolism
- 3) Fuel utilization during aerobic/anaerobic metabolism
- 4) Fat utilization and aerobic metabolism
- 5) Metabolic and/or Exercise Induced Asthma
- 6) Effect of Sleep Deprivation on metabolic performance and/or metabolism
- 7) Metabolic disorders: disease and metabolism
- 8) Measurement of metabolism – techniques & protocols
- 9) Endurance Exercise & Pathological Processes
- 10) Immunoglobulin Levels in metabolism
- 11) Training methodologies: anaerobiosis vs aerobiosis
- 12) Effect of Caffeine on Lactate Responses in Metabolism
- 13) Eating Disorders and metabolic influences
- 14) Chronic Overloading during metabolic activity
- 15) Influence of Preferred Relaxing Music on State Anxiety & metabolism
- 16) Muscle Glycogen Synthesis after Exercise
- 17) Metabolic changes due to myocardial infarction
- 18) Intensive Training in Young Athletes – metabolic effects
- 19) Physiology & Biochemical Changes during stress (triathlons)
- 20) Stress and Performance in metabolic activity
- 21) A/B Types & Psychophysiological Responses to Exercise
- 22) Aerobic Dance and metabolism
- 23) Physical Activity Counseling - Preventive Intervention
- 24) Plasma Volume Changes during exercise
- 25) Ethnic differences in metabolism
- 26) Skeletal Muscle Characteristics & differences in metabolic exercise
- 27) Lactate Level as an Index of Exercise Performance
- 28) Mitochondrial DNA Sequence Polymorphisms
- 29) VO_{2max} & metabolism
- 30) Additive Effects of Caffeine & Cold Water during Submax leg Exercise
- 31) Glucose Induced Exertional Fatigue in Muscle P-fructokinase Deficiency
- 32) Effect of Yoga Training on Serum LDH Levels
- 33) Muscle structure and aerobic vs. anaerobic metabolism
- 34) Role of Metabolism in Aging
- 35) Regulatory mechanisms in metabolism

Possible TOPIC AREAS for Presentations in Anaerobic & aerobic metabolism

Regulation of metabolism: key metabolic enzymes (PFK, CS, PDH, KGDH)

Differences between anaerobiosis & aerobiosis

Anaerobic thresholds/lactate testing

Training methodologies: anaerobic vs. aerobic

interval, hypoxic, aerobic, endurance, tapers

isometric, isotonic, isokinetic

high altitude training & blood doping

Diet and effects on energy production and metabolism:

carbohydrate loading

fluid replacements

kidney function during exercise

Your own personal burning issue in metabolism

a metabolic disorder in a personal acquaintance