California State University, Northridge  
Department of Kinesiology  

KIN 646 - Seminar in Exercise Physiology  
T 4:00 – 6:50PM  

Dr. Ben B. Yaspelkis, III  
Office: KIN 282  
Office Hours: T and Th 10-11AM, and by appointment  
Phone: 818-677-7509  
e-mail: ben.yaspelkis@csun.edu  
http://www.csun.edu/~bby44411  

Prerequisite: KIN 446 or consent of instructor.  

Textbooks:  
3. Research Article Packets, availability to be discussed  

Course Schedule  

Date Topic  
SECTION I  
1/30 Introduction  
• Brooks et al.  
  Chapter 1 – Introduction: The limits of human performance  
• Maughan and Gleeson.  
  Chapter 1 – Introduction: The biochemical basis of exercise and sport  

2/6 Exercise Metabolism I  
• Brooks et al.  
  Chapter 2 - Bioenergetics  
  Chapter 3 - Energetics and Human Movement  
  Chapter 4 - Basics of Metabolism  
  Chapter 5 - Glycogenolysis and Glycolysis in Muscle  

2/13 Exercise Metabolism II  
• Brooks et al.  
  Chapter 6 - Cellular Oxidation of Pyruvate and Lactate  
  Chapter 7 - Lipid Metabolism  
  Chapter 8 - Metabolism of Proteins and Amino Acids  
2/20  Endocrinology
   • Brooks et al. Chapter 9 - Neural-endocrine Control of Metabolism

2/27  No Class

3/6  Metabolic Adaptations to Aerobic Exercise Training in Skeletal Muscle
   • Brooks et al
     Chapter 10 - Metabolic Response to Exercise

3/13  The Biochemical Basis of Exercise and Sport I
   • Maughan and Gleeson
     Chapter 3 – The Sprinter
     Chapter 4 – Middle Distance Events
     Chapter 5 – The Endurance Athlete

3/20  The Biochemical Basis of Exercise and Sport II
   • Maughan and Gleeson
     Chapter 6 – The Games Player
     Chapter 7 – Sporting Talent
     Chapter 8 – Adaptations to Training

3/27  Mid-Term Exam Due

4/2 - 4/6  SPRING BREAK

SECTION II

4/10  Skeletal Muscle and Resistance Training
   • Brooks et al.
     Chapter 17 - Skeletal Muscle Structure and Contractile Properties
     Chapter 18 - Neurons and Motor Unit Recruitment
     Chapter 19 - Principals of Skeletal Muscle Adaptations
     Chapter 20 - Muscle Strength Power and Flexibility
   • Maughan and Gleeson
     Chapter 2 – The Weightlifter

4/17  Cardiovascular Physiology
   • Brooks et al.
     Chapter 14 - The Heart
     Chapter 15 - Circulation and its Control
     Chapter 16 - Cardiovascular Dynamics During Exercise

**4/24**

**Limitations to Human Performance**


**5/1**

**Ventilatory Regulation during Exercise**

- Brooks et al.  
  Chapter 11 - The Why of Pulmonary Ventilation  
  Chapter 12 - The How of Ventilation  
  Chapter 13 - Ventilation as a Limiting Factor in Aerobic Performance

**5/8**

**Nutrition and Athletic Performance**

- Brooks, Chapter 28

**5/15**

**Obesity, Body Composition and Exercise**

- Brooks et al.  
  Chapter 25  

**Exercise as Preventative Medicine**

- Brooks et al.  
  Chapter 24  
  Chapter 26

**5/22**

**Final Exam Due (5:30PM)**
Spring 2007

Grading

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Grade Scale

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Exams:
Students will be required to conceptualize the information provided in order to solve problems. Exam answers will be evaluated on the quality of writing (i.e., complete sentences and thoughts), support of answer from reading material/class discussion and content as related to question.

Personal Communication Devices:
All personal communications devices (i.e., pagers, cell phones, etc.) will be turned off while in class. Five (5) points will be deducted from the final grade on each occasion that a communications device is activated in class. This policy may be modified on an individual basis if the need is warranted.

Cheating:
Any student caught cheating will automatically fail the course and may be subject to more severe University discipline. I expect all students to know, understand, adhere to and enforce the California Code of Regulations, Section 41301, Title 5 as found in the university catalog. If you cannot abide by the policies stated in the code, you should not be here.