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**Prerequisite:** KIN 346 or equivalent and certification in cardiopulmonary resuscitation (CPR). CPR certification must be obtained by the announced date.

**Course Objectives:** This course will expose the student to advanced topics, theories and laboratory techniques in exercise physiology. Concurrent enrollment in KIN 446 and KIN 446L is required.

**Textbooks:**  
2. *Research Article Packet*, availability to be discussed

**Course Schedule**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1/29</td>
<td>Introduction</td>
</tr>
<tr>
<td></td>
<td>• Brooks, [Ch 1], [Ch 27, pp. 670-677]</td>
</tr>
<tr>
<td>2/5</td>
<td>Exercise Metabolism</td>
</tr>
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<td></td>
<td>• Brooks, [Ch 2, pp. 24-27], [Ch 3], [Ch 4], [Ch 5, pp. 55-82], [Ch 6, pp. 93-104], [Ch 7, pp. 115-132]</td>
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<tr>
<td>2/12</td>
<td>Metabolic Adaptations to Exercise Training in Skeletal Muscle</td>
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<td>• Brooks, [Ch 5, pp. 83-88], [Ch 6, pp. 105-112], [Ch 7, pp. 132-141], [Ch 33, pp. 812-814]</td>
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</tbody>
</table>
Spring 2001

2/19 Adaptations to Anaerobic Training
• Brooks, [Ch 17], [Ch. 18], [Ch 19], [Ch 20]
  * J. Appl. Physiol. 46: 96-99, 1979

2/26 Body Composition
• Brooks, [Ch 25]

3/5 EXAM I (Includes Labs 1-6)

3/12 Cardiovascular Responses to Exercise
• Brooks, [Ch 14, pp.279-288], [Ch 15], [Ch 16]

3/19 Limitations to Human Performance
• Coyle, E.F., et al.. Determinants of endurance in well trained cyclists, J. Appl. Physiol. 64: 2622-2630, 1988

3/26 Cardiovascular Effects of Detraining

4/2 Ventilatory Regulation during Exercise
• Brooks, [Ch 10, pp. 202-208], [Ch 11], [Ch 12]
• Mahler, M. Neural and humoral signals for pulmonary ventilation arising in exercising muscle, Med. Sci. Sports. 11: 191-197, 1979

4/9 – 4/13 SPRING BREAK

*4/23 EXAM II (Includes Labs 7-10)

*4/16 Hormonal Responses to Exercise
• Brooks, [Ch 9]

* Note dates due to Spring Break
4/30    Carbohydrate feeding prior to, during and following exercise
  • Brooks, [Ch 28]
  • Sherman, W.M. Carbohydrate feedings before and after exercise, Perspectives in
    Exercise Science and Sports Medicine, Vol. 4, Brown and Benchmark, Ann Arbor,
    MI, 1991, pp. 1-34
  • Coyle E.F., et al. Muscle glycogen utilization during prolonged strenuous
    exercise when fed carbohydrate,  J. Appl. Physiol. 61: 165-172, 1986
  • Yaspelkis, B.B., et al. Carbohydrate supplementation spares muscle glycogen
    during variable-intensity exercise,  J. Appl. Physiol. 75: 1477-1485, 1993

5/7    Exercise and Aging
  • Brooks, [Ch 32]
  • American College of Sports Medicine. Position Stand: Exercise and physical
  • Cartee, G.D. Aging skeletal muscle: Response to exercise. Exercise and Sport
    Science Reviews, Williams & Wilkins, Baltimore, 1994, pp. 91-120.
  • Heath, G.W., et al. A physiological comparison of young and older endurance

5/14    Thinking On Your Feet

5/21 Final Exam - Comprehensive (12:45p-2:45p)

Grading for 446/446L

<table>
<thead>
<tr>
<th></th>
<th>Points</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Exam I</td>
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<tr>
<td>Exam II</td>
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<tr>
<td>446L Grade</td>
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<tr>
<td>Oral Presentation</td>
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<tr>
<td>Final Exam</td>
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<td>Total</td>
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No CPR -10

Grade Scale for 446/446L

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<th>Grade</th>
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<tr>
<td>A-</td>
<td>89-93</td>
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<td>B+</td>
<td>84-88</td>
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<td>B</td>
<td>80-83</td>
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<td>B-</td>
<td>77-79</td>
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<tr>
<td>D-</td>
<td>57-59</td>
</tr>
<tr>
<td>F</td>
<td>&lt;56</td>
</tr>
</tbody>
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3
Exams:
Exams will cover material that is from lectures, labs and readings. Exams will consist of short answer and problem type questions. Students will be required to conceptualize the information provided in labs/lectures 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.

Laboratory Grade
Although the laboratory section of this course is listed as independent from the lecture, the laboratory grade will be scaled to 100 points and included in the point total as indicated above. For example, if you receive 90% of the total points in the laboratory, this will be scaled to 90 out of 100 points and added to your total points for 446/446L. You will receive the same grade for 446 and 446L.

Exam Review Policy:
Possession or use of a previous student's exam notes, laboratory assignments or term papers will constitute an ethics violation. Course examinations will NOT be returned to the student. Students may review previous exams during office hours, or at other specially announced times. Extra exam review times will NOT be added prior to the final examination. You should review your exams immediately after they are graded (i.e., when they are returned in class).

When you review a previously completed exam, you may NOT take notes or use any type of device to record or document the exam material. Violation of this rule will constitute an ethics violation on the exam.

Make Up Exams/Laboratories:
In the case of a medical or family emergency, a make-up exam or laboratory can be scheduled ONLY if I am notified prior to the class/laboratory in which the exam/laboratory is scheduled. This requires that we meet and discuss the issue, I agree that your reason for missing the assignment is valid, AND I excuse you from the exam/laboratory. You will receive a 0 (ZERO) for the exam/laboratory if this procedure is not followed.

Oral Presentation: Thinking on Your Feet.
The objective of this presentation is to provide you with the opportunity to answer (with some stress) questions about topics you should be familiar with by the end of the semester. It’s like a technically oriented interview. This opportunity will also encourage you to review your text and notes. This exercise will help prepare you for the final and reduce your study time during finals week.

Topics will be selected from material covered in class. Before we begin, you will randomly draw numbers to identify your speaking order. During the other students presentations you will have your notes put away which will allow you to give your undivided attention to the speaker.

The presentation will consist of: 1. Randomly drawing two numbers and then choosing one of these for your topic 2. Write the topic heading on the board 3. Take 2 minutes to organize your thoughts (jot down notes if necessary - from your mind, not your notes) 4. Speak for 2 minutes about the topic. Scoring: 50 points total

0 points if you decline to participate
10 points for trying but unable to rationally provide a discussion for up to a minute.

25 points for speaking in a reasonably rational fashion on the topic for 1 minute. The material you present must be factually correct to receive 25 points. Incorrect material or babbling on will cost 10 points resulting in a score of 15.
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50 points for speaking in a reasonably rational fashion on the topic for 1:45 - 2 minutes. The material you present must be factually correct to receive 50 points. Incorrect material or babbling on will cost 15 points resulting in a score of 35.

You will be corrected in class for any errors. This is done to promote the dissemination of accurate knowledge and is not meant to embarrass you.

**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.