**Department of Kinesiology**

**Course Syllabus**

**Spring 2018**

**1. Course Number:** KINE 7700

**Course Title:** Advanced Physiology of Exercise II

**Credit Hours:** 3 semester hours (Lecture 3)

**Prerequisite:** KINE 3680 or equivalent or departmental approval.

**Corequisite:** None

**2. Course Instructor:** L. Bruce Gladden

**Meeting Place & Time:** Student Activities Building 253

4:00 – 6:30 pm W

**3. Text:** Brooks, George A., Thomas. D. Fahey, and Kenneth M. Baldwin (2005). Exercise Physiology: Human Bioenergetics and Its Applications (4th ed.). Boston: McGraw-Hill. ISBN 0-07-255642-0;

and

Powers, Scott K., and Edward T. Howley (2017). Exercise Physiology: Theory and Application to Fitness and Performance, Tenth Edition. McGraw-Hill Education, New York: McGraw-Hill. ISBN-13: 978-1259870453; ISBN-10: 1259870456

and

Course Hand-Outs on Canvas.

**4. Course Description:** Skeletal muscle function, cardiovascular and respiratory responses to exercise, including regulation/control; physiological principles of aerobic/endurance training and resistance/strength training; cell signaling/hormonal responses (if we get that far), and temperature regulation during exercise (if we get that far).

This is a Graduate School course. Therefore, much material will be taken for granted as baseline knowledge. **If you feel that your background in the sciences and physiology is less than you would prefer, it is your responsibility to work even harder to compensate for any deficiencies you may have.** The course format will be lecture plus question and answer. Please ask questions! I will ask questions of you.

It is imperative that you come to class prepared to discuss the topic of the day. In order to derive optimal benefits from our discussions, previous knowledge of the topic is required. Therefore, all students are expected to read all assignments prior to class, and to review material from previous class meetings. You will be asked to provide evidence that you are already familiar with the readings.

**5. Course Requirements/Evaluation/Grading:**

A. There will be two examinations, a Midterm and a Final, each about 2.5 hours in length and each worth 100 points, for a total of 200 points; **these exams will be given outside of scheduled class time**.

B. There will be two “quizzes”, each about 75 minutes in length. Each quiz is worth 50 points for a total of 100 points; **these quizzes will be given outside of scheduled class time**.

C. Surprise quizzes are a possibility. If given, they would be about 10-15 minutes in length and worth 10 points each.

88.00% or greater = A

79.00%-87.99% = B

70.00%-78.99% = C

60.00%-69.99% = D

less than 60.00% = F

**Curving** – DO NOT request that grades be adjusted (curved); the grading scheme above is based on 30+ years of teaching this class.

**Extra Credit** – There is no scheduled extra credit in this class; there is only credit. Should “extra” credit opportunities arise, they will be offered to all students in the class.

**6. Class Policy Statements:**

**Unannounced Quizzes -** There could be unannounced quizzes in this class.

**Email –** You are responsible for checking your e-mail regularly and in a timely manner for any communications related to this class. The University has requested that all students use their Auburn University email accounts. This is the most efficient way for instructors to communicate with an entire class, and the University will occasionally send global notices that are important for all students. For this class, it is a requirement that you check your Auburn University email frequently.

**Electronic Devices** - As a courtesy to others, turn your cell phone completely off during class or individual meetings with me. If you are expecting an extremely important call, please let me know at the beginning of class or appointment. Similarly, texting, surfing, or other electronic use (e.g., computer, iPad, etc.), unless directly related to the class or appointment, is strictly prohibited. If these policies are violated, you will be asked to leave class or the appointment.

**Attendance -** Although roll will not be taken specifically, it is expected that students taking a graduate class will attend every class meeting and will actively participate in class discussions. Please refer to the Student Policy eHandbook (<http://www.auburn.edu/student_info/student_policies/>) for the definition of excused absences. Students are expected to show evidence of thorough reading of assigned materials. Students are responsible for initiating arrangements for missed work.

**Disability Accommodations -** Students who need accommodations are asked to electronically submit their approved accommodations through AU Access and to arrange a meeting during office hours the first week of classes, or as soon as possible if accommodations are needed immediately. If you have a conflict with my office hours, an alternate time can be arranged. To set up this meeting, please contact me by e-mail. If you have not established accommodations through the Office of Accessibility, but need accommodations, make an appointment with the Office of Accessibility, 1228 Haley Center, 844-2096 (V/TT).

**Honesty Code** – The University Academic Honesty Code and the Student Policy eHandbook (<http://www.auburn.edu/student_info/student_policies/>) pertaining to Cheating will apply to this class.

**Professionalism** – As faculty, staff, and students interact in educational settings, they are expected to demonstrate professional behaviors as defined in the College of Education’s conceptual framework. These professional commitments or dispositions are as follows: 1) engage in responsible and ethical practices, 2) contribute to collaborative learning communities, 3) demonstrate a commitment to diversity, and 4) model and nurture intellectual vitality.

**7. KINE 7700 Course Outline:**

The course outline that follows is a baseline schedule. It is subject to change. This allows flexibility in dealing with different topics. For example, if more discussion arises on a particular subject or set of papers, it may take longer to cover it. In other cases, less time may be required. You will be informed regularly and promptly of any changes. **Please note that research and professional meetings may cause me to miss classes from time to time. In all cases, we will arrange mutually agreeable times to make up the missed classes and/or have assignments during my absence.**

Week 1-3: Cardiovascular System and Exercise – Powers & Howley Chapter 9; Brooks et al. Chapters 14, 15, and 16.

Weeks 4-6: Respiratory System and Exercise – Powers & Howley Chapter 10; Brooks et al. Chapters 11, 12, and 13. “Control of breathing during exercise” by H.V. Forster and L.G. Pan. In: The Lung: Scientific Foundations, ed. By R.G. Crystal, J.B. West et al., Lippincott-Raven Publishers, Philadelphia, 1997.

Weeks 7-9: Aerobic Training – Powers & Howley Chapter 13, pp. 278-299; “Quantity and quality of exercise for developing and maintaining cardiorespiratory, musculosketal, and neuromotor fitness in apparently healthy adults: Guidance for prescribing exercise,” American College of Sports Medicine Position Stand, Medicine and Science in Sports and Exercise 43(7):1334-1359, 2011; “Linear increase in aerobic power induced by a strenuous program of endurance exercise,” by Hickson, Bomze and Holloszy, Journal of Applied Physiology 42:372-376, 1977; “Influence of intense endurance training on aerobic power of competitive distance runners,” by Mikesell and Dudley, Medicine and Science in Sports and Exercise 16:371-375, 1984.

Weeks 10-12: Strength Training – Powers & Howley Chapter 13, pp. 299-310; Brooks et al. Chapters 19 and 20; “Progression models in resistance training for healthy adults,” American College of Sports Medicine Position Stand, Medicine and Science in Sports and Exercise 34:364-380, 2002.

Weeks 13-14: Cell Signaling and the Hormonal Responses to Exercise; Powers & Howley Chapter 5.

Week 15: Temperature Regulation – Powers & Howley Chapter 12; Brooks et al. Chapter 22.

2018 SPRING TERM

**CLASS DAYS – KINE 7700 Advanced Physiology of Exercise II**

1 W Jan 10

M Jan 15 – Martin Luther King, Jr. Holiday

2 W Jan 17

3 W Jan 24

QUIZ #1 sometime during Weeks 3-4

4 W Jan 31

5 W Feb 7

6 W Feb 14

Th-Sat – Feb 15-17 – SEACSM Meeting in Chattanooga, TN

7 W Feb 21 – NO CLASS – to be made up either prior to or after this date.

MIDTERM approximately during the week of Feb 19 or the next week of Feb 26

8 W Feb 28

9 W Mar 7

Sat-Sun – Mar 10-18 – Spring Break – NO CLASSES.

10 W Mar 21

11 W Mar 28

QUIZ #2 sometime during Weeks 11-12

12 W Apr 4

13 W Apr 11

14 W Apr 18

Fri-Th – Apr 20-26 – Experimental Biology Meeting in San Diego, CA

15 W Apr 25 – LAST CLASS – WILL MISS THIS CLASS – will make up either prior to

or after

Apr 28-29 ; Sat-Sun - Study/Reading Days

Apr 30 - May 4; M-F - Final Exam Days

F May 4 – 4:00 – 6:30 pm, KINE 7700 **Officially Scheduled** Final Exam Time

May 5-7; Sat-Mon - COMMENCEMENT

**TENTATIVE TESTING SCHEDULE**

**QUIZ #1** – end of January; around Classes 3-4.

**MIDTERM** – during week of Feb 20 or 27; after 7-8 Classes.

**QUIZ #2** – end of Mar, beginning of Apr; after 11-12 Classes.

**FINAL EXAM** – at convenient times – after 15 classes.