SYLLABUS FOR KINE 7680
ADVANCED PHYSIOLOGY OF EXERCISE I
Fall, 2012

Course Instructor: L. Bruce Gladden – 844-1466; gladdlb@auburn.edu.

Office Hours: MW – 8:00 – 9:00 am, Coliseum 2129

Meeting Place and Time: Coliseum 2043 at 2:00-3:15 pm MWF. Note that Fridays will be used for make-up days only.

Textbook: Exercise Physiology: Theory and Application to Fitness and Performance, Eighth Edition, by Scott K. Powers and Edward T. Howley, McGraw-Hill, New York, 2012.
ISBN: 978-0-07-802253-1

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.** This course is a graduate survey course in Exercise Physiology. Therefore, we will cover a broad range of the field of Exercise Physiology. 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. You will be asked to provide evidence that you are already familiar with the readings.

GRADING

1. 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**.
2. There will be two "quizzes," each about 75 minutes in length. Each quiz is worth 50 points for a total of 100 points.
3. Surprise quizzes are a possibility. If given, they would be about 10-15 minutes in length and worth 10 points each.
4. There will be **at least one** assignment for a total of 30 points.

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 over 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.

Class Policy Statements:
There could be unannounced quizzes in this class.
Use of cell phones, similar electronic instruments, or computers, unless directly related to the class is prohibited. If you break this rule, you will be asked to leave.
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 (www.auburn.edu/studentpolicies) 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.

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 (www.auburn.edu/studentpolicies) 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.

KINE 7680 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 travel may take me away for several classes. In those cases, we will meet on Fridays to make up the missed classes. All such absences and subsequent Friday meetings will be announced.**

Week 1: History of exercise physiology, homeostasis and steady state, Chapters 0 and 2.
Week 2: Biochemistry of Exercise: Overview and glycolytic pathway - Chapter 3
Week 3: Biochemistry of Exercise: TCA cycle, electron transport chain - Chapter 3
Week 4: Biochemistry of Exercise: lipid metabolism, control of reactions, and summary.
Week 4: Metabolic Rate Calculations: VO_2, VCO_2, RER, RQ, pp. 20-23 in Chapter 1 and Hand-outs (VO_2 section).
Week 5: Metabolic Rate Calculations: VO_2, VCO_2, RER, RQ, continued. pp. 20-23 in Chapter 1 and Hand-outs (VO_2 section).
Week 6: Whole Body Exercise Response: O_2 deficit, O_2 Debt. EPOC – Chapter 4.
Week 7: Whole Body Exercise Response: VO_2 and lactate response to progressive incremental exercise.deficit, lactate threshold – Chapter 4.
Week 8: Whole Body Exercise Response: Fuel selection and utilization during exercise, effects of intensity and duration – Chapter 4.
Week 9: Measurement of work and power, estimation of VO_2 for walking, running, cycle ergometry – Chapter 1.
Week 10: Efficiency and economy – Chapter 1.
Week 11: VO_{2max} predictions – Chapter 15.
Week 12: Laboratory tests of performance – Chapter 20.
Week 13: Skeletal muscle – Chapter 8.
Week 14: Skeletal muscle – Chapter 8.
Week 15: Skeletal muscle – Chapter 8.

M Sep 3 **Labor Day Holiday.**
M Sep 10 **Gladden out of town.**
W Oct 10 **Gladden out of town (Integrative Biology of Exercise).**
MW Nov 19 and 21 - **THANKSGIVING HOLIDAYS.**
F Nov 30 Last class day of Fall 2012 semester.

TENTATIVE TESTING SCHEDULE

W Sep 12 **QUIZ #1.**
MIDTERM – 2.5 hour time limit. To be scheduled during October 3-5.
M Nov 5 **QUIZ #2.**
T Dec 4 **FINAL EXAM** – 4:00 to 6:30 pm.