PHYSIOLOGY OF EXERCISE
742-314
Spring 2015

INSTRUCTORS

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Office Hours: MW 9:45-11:00 or by appointment

LAB SECTION	**LAB INSTRUCTOR**
Lab 301: 3:30-5:25 M Lab 304: 5:30-7:25 M	Kristin Haraldsdottir Email: haraldsdotti@wisc.edu phone: 265-5095
Lab 302: 1:20-3:00 T Lab 303: 3:30-5:25 T Lab 305: 5:30-7:25 T	Greg Barton Email: gbarton@wisc.edu phone: 265-0470

LECTURE LOCATION AND TIME: Gym Unit II, Room 1140 (MW, 8:30-10:50 AM)
LABORATORY LOCATION: Gym Unit II, Room 1108 (gym 6)

TEXTS:
Exercise Physiology: Theory and Application to Fitness and Performance 8th Edition
Scott K. Powers and Edward T. Howley (2012)
Available at the University Bookstore ***Required***

Physiology of Exercise Laboratory Manual
Available online at the course Learn@UW site ***Required***

We try to ensure that people with disabilities are fully included in this course. Please let the Instructors know if you need any special accommodations in the curriculum, instruction, assessments, or lab activities to enable you to participate fully. We will try to maintain the confidentiality of the information you share with us.

STANDARDS:

This course meets the following School of Education Standards:

1.3 Describe performance concepts and strategies related to skillful movement and physical activity (e.g., fitness principles, game tactics, skill improvement principles).

1.4 Describe and apply bioscience (anatomical, physiological, and biomechanical) and psychological concepts to skillful movement, physical activity, and fitness

EVALUATION

Lecture: 2 exams during semester and one final exam (each worth 22% of final grade)
Exam dates: February 23 and March 25
Final Exam: May 14

Should you feel that an exam has been unfairly graded, you will have one week from the day the exams are handed back to request a re-grade of the exam. After the one week period, no test will be accepted for re-grading.

Lab: Lab attendance and participation are **mandatory**. If you anticipate being absent from a particular lab, contact your TA **before** that lab session. If you missed a given lab and did not contact your TA before the lab, this will be an unexcused absence and you will receive a grade of "0" for that lab.

The total lab grade counts 25% of the final course grade. Two "Integrative Labs" will be conducted during the semester and reports on these labs will each count 8% of the final grade. Written lab reports, weekly lab quizzes, and lab participation will count for the remaining 9%. Lab reports will be due at the **beginning** of the next lab and will be evaluated on content and completeness. Late reports will **not** be accepted, and reports will not be accepted for any lab the student did not attend.

Student Research Presentation: There will be one research presentation required for this class. More information will be given about this presentation later in the class. Briefly, students will work in groups and each group will be assigned a topic of current interest in Exercise Physiology. Groups will be expected to research their topic and present a 10 minute oral presentation on the results of their research.

Calculation of Course Grade:

Exam I	= 22%
Exam II	= 22%
Exam III	= 22%
Student Research Presentation	= 9%
Integrative Lab I	= 8%
Integrative Lab II	= 8%
Lab Reports	= 9%

Grading Scale:

A	= 93-100
AB	= 88-92
B	= 80-87
BC	= 77-79
C	= 70-76
D	= 60-69
F	= Below 60

PHYSIOLOGY OF EXERCISE LECTURE SCHEDULE

Date	Lecture Topic	Reading	Instructor
21-Jan	Course Intro		Diffee/Schrage
23-Jan	Skeletal Muscle Contraction	Ch 8, pp 164-172	Diffee
26-Jan	Skeletal Muscle Contraction	"	Diffee
28-Jan	Skeletal Muscle Mechanics	Ch 8, pp 179-185	Diffee
30-Jan	Basics of Bioenergetics	Ch 3, pp 41-50	Diffee
2-Feb	Anaerobic Metabolism	Ch 3, pp 50-54	Diffee
4-Feb	Aerobic/Oxidative Metabolism	Ch 3, pp 55-61	Diffee
6-Feb	Exercise Metabolism	Ch 4, pp 68-86	Diffee
9-Feb	Fuel Selection	Ch 5, pp 111-120	Diffee

11-Feb	Fiber Types	Ch 8, pp 175-179	Diffee
13-Feb	Contractile Adaptations to Training	Ch 13, 282-283; 301-306	Diffee
16-Feb	Biochemical Adaptations to Training	Ch 13, pp 287-297	Diffee
18-Feb	Muscle Fatigue	Ch 19, pp 443-455	Diffee
20-Feb	Review for Exam I		Diffee
23-Feb	**Exam I**		
25-Feb	Cardiac Cycle	Ch 9, pp 188-202	Schrage
27-Feb	Cardiac Cycle	Ch 9, pp 188-202	Schrage
2-Mar	Cardiac Output	Ch 9, pp 199-204, 207-220	Schrage
4-Mar	Hemodynamics	Ch 9, pp 205-206	Schrage
6-Mar	Pulmonary Physiology	Ch 10, pp 218-230	Schrage
9-Mar	Gas Transport	Ch 10, pp 230-235	Schrage
11-Mar	Cardiorespiratory Response to Exercise	Ch 9, pp 207-208, 211-215	Schrage
13-Mar	Cardiorespiratory Response to Exercise	Ch 9, pp 207-208, 211-215	Schrage
16-Mar	Cardiorespiratory Response to Exercise	Ch 10, pp 237-245	Schrage
18-Mar	Training Adaptations	Ch 13, pp 282-300, 241-244	Schrage
20-Mar	Training Adaptations	Ch 13, pp 301-308	Schrage
23-Mar	Review for Exam II		Schrage
25-Mar	**Exam II**		
27-Mar	Detraining	Ch 13, pp 300-301	Schrage
	Spring Break		
6-Apr	Temperature	Ch 12, 260-277	Schrage
8-Apr	Temperature	Ch 24, pp 552-555	Schrage
10-Apr	Space Flight	TBD	Schrage
13-Apr	Altitude	Ch 24, pp 542-550	Schrage
15-Apr	Altitude	Ch 24, pp 542-550	Schrage
17-Apr	TBD		Schrage
20-Apr	Hormones	Ch 5, pp 92-120	Diffee
22-Apr	Hormones	"	Diffee
24-Apr	Exercise and Gender	Ch 22	Diffee
27-Apr	Exercise and Disease	Ch 17	Diffee
29-Apr	Ergogenic Aids	Ch 25, pp 567-582	Diffee
1-May	Ergogenic Aids	"	Diffee
4-May	TBD		TBD
6-May	TBD		TBD
8-May	Review for Exam III		Diffee/Schrage
14-May	**Exam III** 10:05am – 12:05pm		

Spring 2015: Exercise Physiology Laboratory Schedule

Week	Date	Lab #	Lab	Pages
1	1/19 -1/20		No Labs	
2	1/26 - 1/27		Intro and Syllabus	
3	2/2 - 2/3	1&2	Work, Power, and Energy Expenditure	7-26
4	2/9 - 2/10	3	Ventilation and Exercise	27-41
5	2/16 – 2/17	4	VO_{2max}, Estimated VO_{2max}, and Lactate Threshold	42-57
6	2/23 – 2/24		Integrative Lab I	
7	3/2 – 3/3		Integrative Lab I	
8	3/9 – 3/10	5	Electrocardiogram	58-65
9	3/16 – 3/17	6	Exercise: Blood Pressure Response	66-74
10	3/23 - 3/24	7	Autonomic Nervous System	75-81
		Spring Break		
11	4/6 – 4/7	8	Evaluation of Body Composition	82-89
12	4/13 – 4/14		Integrative Lab II	
13	4/20 – 4/21		Integrative Lab II	
14	4/27 – 4/28		Integrative Lab II Presentations	
15	5/4 – 5/5		Student Research Presentations	