**Physiology of Exercise Lecture**

**(KINE3680-003) Course Syllabus**

**Fall 2023**

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**Instructor:** Braxton Linder

**Office:**Kinesiology 238

**E-mail:** [bal0039@auburn.edu](mailto:bal0039@auburn.edu)

**Office Hours:**M-F 1:00 – 2:00 pm (or by appointment)

**Class Schedule:** MWF 10:00 am-10:50 am

**Meeting Location:**STACT 241

**Textbook(s):** Recommended, but not required

* Powers, Howley, and Quindry. Exercise Physiology: Theory and Application to Fitness and Performance. McGraw-Hill. 11th edition (9th edition or newer should be sufficient). All information will come from PowerPoints and class discussions.

**Course Description:**

This course will focus on the energetics of exercise and physiological responses and adaptations of various organ systems (muscular, circulatory, respiratory, etc.) to acute and chronic exercise in different environments.

**Course Objectives:**

* Identify macro- and micro- structure of the human organism.
* Describe and compare different methods of bioenergetics.
* Describe metabolic requirements at different intensities.
* Understand the structure and function of skeletal muscle.
* Describe cardiovascular function and adaptations to exercise and training.
* Discuss regulation of blood flow, temperature, and pH during exercise.
* Identify, apply, and evaluate principles of training for performance improvement within the context of all previous course objectives.

**CLASS POLICIES**

**COVID-19 Policy:**

If normal class and/or lab activities are disrupted due to illness, emergency, or crisis situation, the syllabus and other course plans and assignments may be modified to allow completion of the course. If this occurs, an addendum to your syllabus and/or course assignments will replace the original materials.

**Attendance Policy:**

Consistent attendance is vital to classroom and professional success. Excused absences will not count against student attendance. Should a student miss a class for any excused reasons, the student will be expected to notify the instructor regarding the excused absence **prior to** the absence. Students will be expected to provide proper documentation regarding the excused absence. Unexcused absences will result in a deduction of 10 points. Students have been allotted 60 points towards their attendance grade (see below). Lectures, discussions, and other in class topics are critical aspects of this course. When a student is absent, this type of work cannot be replicated or “made up”. It is the student’s responsibility to obtain all materials missed as a result of absence.

**Absences/Make-up Policy:**

Students will be expected, Make-up work will be rescheduled for any excused absence once the documentation has been provided. Make-up work must be completed **within two weeks of the absence.** If the student fails to provide proper documentation regarding the **excused absence *within one week of the absence***, they will not be able to make up any assignment missed due to the absence.

**Cell Phone Policy:**

Cell phones must be turned off or on silent mode during class and not present from view. You will not be prohibited from answering cell phone calls during class time, though you will be required to leave class to answer a call. Texting in class will not be tolerated. Students observed texting will be asked to leave class if the issue persists. Cell phones and other handheld devices may not be used or visible during exams.

**Academic Honesty Policy:**

All portions of the Auburn University student academic honesty code found in the Student Policy eHandbook (www.auburn.edu/studentpolicies) will apply to university courses. All academic honesty violations or alleged violations of the SGA Code of Laws will be reported to the Office of the Provost, which will then refer the case to the Academic Honesty Committee.

**Accommodations:**

Students who need accommodations are asked to electronically submit their approved accommodations through AU Access and to arrange a meeting with the instructor to activate any necessary accommodations. This should be done as soon as possible, as accommodations are not retroactive (i.e. you cannot apply accommodations to an assignment after it is due). 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).

**Professionalism:**

As faculty, staff, and students interact in professional settings, they are expected to demonstrate professional behaviors as defined in the College’s conceptual framework. These commitments 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.

**GRADING**

**Grading Rubric:**

|  |  |  |
| --- | --- | --- |
| **Category** | **Assignment** | **Point Value** |
| Exams | Exam 1 | 100 |
|  | Exam 2 | 100 |
|  | Exam 3 | 100 |
|  | Exam 4 | 100 |
|  | Project | 100 |
|  |  |  |
| Participation | Attendance | 60 |
|  | Discussion 1 | 10 |
|  | Discussion 2 | 10 |
|  | Discussion 3 | 10 |
|  | Discussion 4 | 10 |
|  |  |  |
| **Total Points** |  | 600 |
|  |  |  |
| Extra Credit | Lab 1 | 10 |
|  | Lab 2 | 10 |
|  | Lab 3 | 10 |
|  | Lab B | 10 |

**Grading Distribution:**

|  |  |  |
| --- | --- | --- |
| **Letter Grade** | **Point Range** | **Percent Scale %** |
| A | 540+ | 90 – 100 |
| B | 480 - 539 | 80 – 89 |
| C | 420 - 479 | 70 – 79 |
| D | 360 - 419 | 60 – 69 |
| F | <359 | < 60 |

NOTE: The instructor will round grades that are .50 from the next highest letter grade (i.e. an 89.50 will round to an A). However, NO grades below this number will be rounded (i.e. an 89.49 will be given a B). Please do not ask the professor to round your grade at the end of the semester if it does not fit this criterion. Any requests for special exceptions to these grading policies will be interpreted as an honor code violation (i.e., asking for preferential treatment) and will be handled accordingly.

**Assignment Clarifications:**

Exams

There will be 4 lecture exams, each worth 100 points. The exams will be given during class time. If you are ill or otherwise unable (for a legitimate reason) to take any exam, it is your responsibility to notify me within 24 hours of the exam (before the exam if possible) in order to schedule a make-up exam. Make-up exams will not be given unless a valid excuse is provided in a timely manner.

Participation

Participation is worth 100 points. Attendance has allotted 6 unexcused absences (2 weeks of class time) worth of points. The remaining participation points will be from class discussions. These will be in the form of discussing and debating the implementation of principles learned during the course and are designed to encourage students to critically think with each other about the material we go over in class.

Extra Credit

I **AM** offering extra credit on this course. These laboratory assignments are to encourage undergraduates to explore all the expertise housed in the kinesiology department here at Auburn University. Students have three (3), non-repeatable, opportunities to take a tour of the building or individual laboratories and potentially interact with some of the lead graduate students or faculty in their laboratories. These should not take long and require only a few sentences describing anything you learned, found interesting, or anything else you would like to mention. If a student completes three different laboratory assignments, 10 additional bonus points will be added to your final grade.

***Lecture Topics: Chapters are from Powers et al.***

* Control of the Internal Environment Chap 2
* Bioenergetics Chap 3
* Energy Systems Chap 3
* Exercise Metabolism Chap 4

**EXAM I**

* Nervous System Chap 7
* Skeletal Muscle Chap 8
* Circulatory Responses to Exercise Chap 9
* Respiration During Exercise Chap 10

**EXAM II**

* Acid Base Balance During Exercise Chap 11
* Cell Signaling and Hormones Chap 5/6
* Temperature Regulation Chap 12

**EXAM III**

* Physiology of Aerobic Training Chap 13
* Physiology of Resistance Training Chap 14
* Training for Performance Chap 20
* Training for Special Populations Chap 21

**EXAM IV**