**Exercise Physiology/Physiology of Exercise**

 **(KINE 3680) Fall 2022**

**Professor**: C. Brooks Mobley, PhD, CSCS **Phone**: 334-844-1922

**Office**: 169 School of Kinesiology **Prerequisites**: None

**Office hours**: MWF 10:00 – 11:00 am\*\* **Class schedule**: MWF 8:00 – 8:50 am **E-mail**: moblecb@auburn.edu **Class Location:** 257 STACT

**\*\*Please email me to schedule an appointment that fits your schedule, if needed.**

**Course Description**

This course will focus on the physiological, anatomical, biochemical, and molecular aspects of exercise physiology and their respective adaptation to various modes of exercise.

**Course Objectives**

The specific objectives of this class for the student are as follows:

* Establish a foundational understanding of the physiological adaptations that occur in response to different modes (i.e., aerobic, anaerobic) of exercise.
* Establish a foundational understanding of the anatomical and biomechanical aspects of exercise physiology.
* Understand the basic concepts of the physiological aspects of skeletal muscle, respiratory, and cardiovascular responses to exercise.
* Understand the basic concepts of bioenergetics, skeletal muscle, respiratory and cardiovascular physiology in response to exercise.

**Textbooks**: “Required” text:

Powers, S.K, Howley, E. T., & Quindry, J. (2015, 2017, 2019). *Exercise Physiology: Theory and Application to Fitness and Performance*. (9th, 10th, 11th Ed.) New York, NY: McGraw-Hill Humanities

**Best Preparation:** Print off class notes from Canvas prior to coming to class and come to class.

**Student Learning Outcomes**

(a) Demonstrate knowledge of the concepts and applications of exercise physiology with respect to each physiological system.

(b) Demonstrate knowledge of the basic concepts of physiological adaptations to exercise.

(c) Demonstrate knowledge of the foundational concepts of exercise physiology.

**Grading Scale**

|  |  |  |
| --- | --- | --- |
| **Letter Grade** | **Point Range** | **Percent Scale** |
| A | 360 - 400 | 90-100 |
| B | 320 - 359 | 80-89 |
| C | 280 - 319 | 70-79 |
| D | 240 - 279 | 60-69 |
| F | < 240 | <60 |

**Semester Grading Rubric:**

|  |  |  |
| --- | --- | --- |
| **Assignments** | **Description** | **Points/ % of final grade** |
| **Exams** | **(4) Examinations over Lecture material****\*75 points per exam** | **300/ 100%** |
| **Total** | **-** | **300 / 100%\*\*** |

**Class Policies**

**Attendance and Late work**

Please refer to the Student Policy eHandbook (www.auburn.edu/studentpolicies) for the definition of excused absences. Attendance is not mandatory as such; class attendance will not directly impact your course grade. Students will be expected, should they choose to be absent for any excused or unexcused reasons, to obtain all information necessary for successful completion of this course. Exams can be re-scheduled for any excused absence, but unexcused absences will result in a zero for the missed assignment.

**Exam Attendance**

Exam dates will be announced in class at least one week prior to the scheduled exam date. Missed exams will result in 0 points for that portion of the course grade, with no exceptions. Excused absences on exam dates must be arranged prior to the start of the exam for makeup consideration. Students who do not contact me in advance of their missed exam will not be allowed to take the exam at a later date. The student is responsible for being aware of scheduled exams even in the event that a student misses a class where an exam is announced for excused or unexcused reasons.

**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. Cell phones and other handheld devices may not be used or visible during exams. If you need a calculator during an exam, you must bring a “low-tech” device that is not capable of text messaging. Students choosing to have a texting device visible during an exam will receive a 0 grade for that exam.

**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, 334-844-2096 (V/TT).

**Face Coverings**

The university permits individual faculty members to require face coverings in their classrooms and instructional laboratories. All students enrolled in this course will be required to properly wear a face covering that covers the nose and mouth while inside the classroom, laboratory, studio, or office, ***if the university enforces a facemask mandate at any time during the semester***. Failure to comply with this requirement represents a potential Code of Student Conduct violation and may be reported as a non-academic violation. Please consult the Classroom Behavior Policy (Links to an external site.) for additional details.

**Academic Honesty and Conduct**

Students are expected to do their work and cheating will not be tolerated. All portions of the Academic

Honesty code on <https://www.auburn.edu/academic/provost/academic-honesty/> & <https://sites.auburn.edu/admin/universitypolicies/Policies/AcademicHonestyCode.pdf> apply.

**Diversity, Equity, Equality**

Auburn University is committed to providing a working and academic environment free from discrimination and harassment and to fostering a nurturing and vibrant community founded upon the fundamental dignity and worth of ALL its members.

**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 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.

**Contingency Plan**

If the normal schedule is disrupted, the syllabus and other course plans may be modified to allow for the completion of the course and to benefit the student and their learning experience. Your instructor is aware that things may arise and affect the course of work as a class; in that case, your instructor will provide an addendum to your current syllabus with revised course assignments which will then replace this syllabus and all its content. A new syllabus (Syllabus B) will be employed at that time.

***\*\*\*TENTATIVE CLASS SCHEDULE\*\*\****

|  |  |  |
| --- | --- | --- |
| **Date** | **Topic Covered** | **Assignment** |
| 8/17, Wednesday | Introduction and Syllabus | --- |
| 8/19, Friday | Control of the Internal Environment | Chapter 2 |
| 8/22, Monday | Control of the Internal Environment |  |
| 8/24, Wednesday | Nervous System: Structure & Control of Movement | Chapter 7 |
| 8/26, Friday | Nervous System: Structure & Control of Movement |  |
| 8/29, Monday | Structure and Function of Skeletal Muscle | Chapter 8 |
| 8/31, Wednesday | Structure and Function of Skeletal Muscle |  |
| 9/2, Friday | Structure and Function of Skeletal Muscle |  |
| **9/5, Monday** | **LABOR DAY HOLIDAY** | **NO CLASS** |
| 9/7, Wednesday | Bioenergetics of Exercise | Chapter 3 |
| **9/9, Friday** | Bioenergetics of Exercise /**Exam 1 Review** |  |
| **9/12, Monday** | **EXAM 1 (Chapters 2, 7, 8)** | \*\*\* |
| 9/14, Wednesday | Bioenergetics of Exercise |  |
| 9/16, Friday | Exercise Metabolism | Chapter 4 |
| 9/19, Monday | Exercise Metabolism |  |
| 9/21, Wednesday | Hormonal Response to Exercise | Chapter 5 |
| 9/23, Friday | Hormonal Response to Exercise |  |
| 9/26, Monday | Exercise and the Immune System | Chapter 6 |
| 9/28, Wednesday | Exercise and the Immune System |  |
| 9/30, Friday | Measurements in Exercise Physiology | Chapter 1 |
| 10/3, Monday | Measurements in Exercise Physiology |  |
| **10/5, Wednesday** | Circulatory Response to Exercise/ **Exam 2 Review** |  |
| **10/7, Friday** | **FALL BREAK (October 6 - 7)** | **NO CLASS** |
| **10/10, Monday** | **EXAM 2 (Chapters 3, 4, 5, 6)** | \*\*\* |
| 10/12, Wednesday | Circulatory Response to Exercise | Chapter 9 |
| 10/14, Friday | Circulatory Response to Exercise |  |
| 10/17, Monday | Circulatory Response to Exercise |  |
| 10/19, Wednesday | Respiration to Exercise | Chapter 10 |
| 10/21, Friday | Respiration to Exercise |  |
| 10/24, Monday | Acid-Base Balance During Exercise | Chapter 11 |
| 10/26, Wednesday | Acid-Base Balance During Exercise |  |
| 10/28, Friday | Temperature Regulation During Exercise | Chapter 12 |
| 10/31, Monday | Temperature Regulation During Exercise |  |
| 11/2, Wednesday | Physiology of Training |  |
| **11/4, Friday** | Physiology of Training/ **Exam 3 Review** | Chapter 13 |
| **11/7, Monday** | **EXAM 3 (Chapters 1, 9, 10, 11, 12)** | \*\*\* |
| 11/9, Wednesday | Physiology of Training |  |
| 11/11, Friday | Physiology of Resistance Training |  |
| 11/14, Monday | Physiology of Resistance Training | Chapter 14 |
| 11/16, Wednesday | Factors Affecting Human Performance | Chapter 19 |
| **11/18, Friday** | **NO CLASS** | \*\*\* |
| **11/21 – 11/25** | **THANKSGIVING BREAK** | **NO CLASS** |
| 11/28, Monday | Factors Affecting Human Performance |  |
| 11/30, Wednesday | Training for Performance | Chapter 20 |
| **12/2, Friday** | Training for Performance | **Last day of class** |
| **12/9, Friday** | **Final Exam: EXAM 4 (Chapters 13, 14, 19, 20)** | **8:00 – 10:30a** |