**Physiology of Exercise Lecture**

**(KINE 3680-003) Course Syllabus**

**Spring 2021**

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**Instructor:**Melissa Rumbley

**Office:**KINE Room 238

**E-mail:** mnr0008@auburn.edu

**Office Hours:**by appointment only

**Class Schedule:** 11:00-12:15 (Face-to-Face Delivery)

**Meeting Location:** STACT 257

**Textbooks (Recommended, but not required)**

Powers and Howley. Exercise Physiology: Theory and Application to Fitness and Performance. McGraw-

Hill.

The 9th edition or later is recommended for supplementary material. All information for the tests and

quizzes will come from PowerPoints and discussions in class.

**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**

* Discuss the phosphocreatine energy system, glycolysis, and oxidative phosphorylation.
* Describe the endocrine system and how it can affect exercise performance.
* Describe the acute and chronic adaptations of the neuromuscular system to exercise.
* Describe the structure and function of skeletal muscle.
* Describe cardiovascular function and adaptations to exercise and training.
* Describe pulmonary function and adaptations to exercise and training.
* Discuss regulation of blood flow, temperature, and pH during exercise.
* Identify and define the principles of training for performance improvement.
* Discuss body composition and nutrition for health.

**CLASS POLICY**

**Attendance Policy**

Attendance is not mandatory, but consistent attendance is vital to classroom success.  Lectures, discussions, and other in class topics are critical aspects of this course (this includes face-to-face lectures or Zoom lectures). When a student is absent, this type of work cannot be replicated or “made up,” so make sure to stay up to date with the recorded lectures if you happen to miss a class. **It is the student’s responsibility to obtain all materials missed as a result of absence.**

**Absences/Make-up Policy**

Students will be expected, should they miss a class for any excused reasons, to notify the instructor regarding the excused absence. Students will be expected to provide proper documentation regarding the excused absence, and should refer to the Student Policy eHandbook ([www.auburn.edu/studentpolicies](http://www.auburn.edu/studentpolicies)) for the definition of excused absences. Make-up work will be rescheduled for any excused absence once the documentation has been provided. 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.

**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:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Assignments** | **Description** | **Points** | **Percentage** |
| Syllabus Quiz | Syllabus Acceptance Quiz **(1)**  10 points | 10 | ~2% |
| Weekly Quizzes | Lecture based quizzes **(10)**  10 points each | 100 | ~18% |
| Assignments | Lecture based Assignments **(3)**  50 points each | 150 | ~27% |
| Exams | Lecture based exams **(3)**  100 points each | 300\* | ~53% |
| Final Exam | Cumulative Final Exam **(1)** |
| **Total** | **-** | **560** | **100 %** |

\* Lowest of the 4 exam grades will be dropped; see “Assignment Clarifications” for more information

**Grading Distribution:**

|  |  |  |
| --- | --- | --- |
| **Letter Grade** | **Point Range** | **Percent Scale %** |
| A | 504 – 560 | 90 – 100 |
| B | 448 – 503 | 80 – 89 |
| C | 392 – 447 | 70 – 79 |
| D | 336 – 391 | 60 – 69 |
| F | < 336 | < 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 extra credit or 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:**

Weekly Quizzes

Quizzes will be given via Canvas at the end of every week to reinforce topics discussed during the lectures of that week.

Assignments

Before every exam, students will create their own study guide in order to prepare for the test.

Exams

There will be 3 lecture exams and a comprehensive final, all consisting of multiple-choice questions. Each exam, including the final is worth 100 points for the final total of 300 points. The lowest exam grade will be dropped (it may be the final if you wish.) The exams will be given during class time as shown on the attached schedule and the final exam will be during the time scheduled by the University. Exams will have all multiple-choice questions. If you are ill or otherwise unable (for a legitimate reason) to take any exam, it is your responsibility to notify me within **a week** 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 reason is provided in a timely manner. You must be prepared to take the make-up exam within the same week of the scheduled exam.

**Late Work Policy:**

Assignments that are submitted after the due date without having made arrangements prior to the due date will receive a 10-point grade deduction. Work submitted after two days past the original due date will not be accepted and will receive a zero.

**CLASS SCHEDULE**

*\* Schedule is subject to change due to extenuating circumstances.*

|  |  |  |  |
| --- | --- | --- | --- |
|  | **DATE** | **TOPIC** | **TO DO** |
| Week 1 | 1/12 | Course Introduction,  Introduction to Exercise Physiology (Ch. 0) |  |
| 1/14 | Control of the Internal Environment (Ch. 2) | **Quiz 1** |
| Week 2 | 1/19 | The Nervous System (Ch. 7) |  |
| 1/21 | The Nervous System (Ch. 7) | **Quiz 2** |
| Week 3 | 1/26 | Skeletal Muscle (Ch.8) |  |
| 1/28 | Skeletal Muscle (Ch.8) | **Quiz 3** |
| Week 4 | 2/2 | Bioenergetics (Ch. 3) |  |
| 2/4 | Bioenergetics (Ch. 3) | **Quiz 4** |
| Week 5 | 2/9 | **Exam 1 Review** | **Study Guide Due** |
| 2/11 | **Exam 1** |  |
| Week 6 | 2/16 | WELLNESS DAY (No Class) |  |
| 2/18 | Exercise Metabolism (Ch. 4) |  |
| Week 7 | 2/23 | Cell Signaling and Hormones (Ch.5) |  |
| 2/25 | Exercise and the Immune System (Ch. 6) | **Quiz 5** |
| Week 8 | 3/2 | Circulatory Responses to Exercise (Ch. 9) |  |
| 3/4 | Circulatory Responses to Exercise (Ch. 9) | **Quiz 6** |
| Week 9 | 3/9 | Respiration During Exercise (Ch. 10) |  |
| 3/11 | Respiration During Exercise (Ch. 10) | **Quiz 7** |
| Week 10 | 3/16 | **Exam 2 Review** | **Study Guide Due** |
| 3/18 | **Exam 2** |  |
| Week 11 | 3/23 | Acid-Base Balance During Exercise (Ch.11) |  |
| 3/25 | Acid-Base (Ch. 11) / Temperature Regulation (Ch. 12) |  |
| Week 12 | 3/30 | Temperature Regulation (Ch. 12) | **Quiz 8** |
| 4/1 | WELLNESS DAY (No Class) |  |
| Week 13 | 4/6 | Physiology of Training (Ch. 13) |  |
| 4/8 | Physiology of Training (Ch. 13) | **Quiz 9** |
| Week 14 | 4/13 | Physiology of Resistance Training (Ch. 14) |  |
| 4/15 | Training for Performance (Ch. 20) | **Quiz 10** |
| Week 15 | 4/20 | **Exam 3 Review** | **Study Guide Due** |
| 4/22 | **Exam 3** |  |
| Week 16 |  | **FINAL EXAM (TBD)** |  |