

# Physiology of Exercise & Training

APK3110C | Class #16218 Section #089F | 3 Credits | Fall 2025

## Course Info

### INSTRUCTOR

**Anna Gardner, PhD**  
Office: FLG 106-H  
Email: [akgardner@ufl.edu](mailto:akgardner@ufl.edu)

### OFFICE HOURS

MW 9:45 - 11:15 am or by appointment  
\*PLEASE NOTE: Although this is an online course, office hours will be held in person.

### MEETING TIME/LOCATION

This course is delivered asynchronously online and does not have a specific meeting time.

## COURSE DESCRIPTION

Survey in exercise physiology which provides an overview of the acute and chronic responses to exercise. Particular attention is placed on understanding muscle bioenergetics and metabolism as well as the cardiopulmonary responses to exercise. Special topics include exercise testing, training technologies and exercise in hot and cold environments.

## PREREQUISITE KNOWLEDGE AND SKILLS

APK 2105C with minimum grade of C.

## REQUIRED AND RECOMMENDED MATERIALS

Recommended Textbook: Exercise Physiology: Theory and Application to Fitness and Performance by Powers & Howley 12th edition e-book. Additional materials such as handouts, lectures, and worksheets will be provided on the course website via Canvas.

Instructional materials for this course consist of only those materials specifically reviewed, selected, and assigned by the instructor. The instructor is only responsible for these instructional materials.

## COURSE FORMAT

Lectures will be pre-recorded. Students will have the liberty to work at their own pace up until each of the exams. In other words, you are welcome to work ahead on chapters or stick to the course schedule, just as long as you have covered the necessary material prior to each exam. **Whatever you do, DO NOT FALL BEHIND!**

## COURSE LEARNING OBJECTIVES:

- A. To understand the physiological responses to acute and chronic exercise in the context of:
- *Skeletal muscle*

- *Skeletal muscle bioenergetics and metabolism*
- *Cardiovascular system*
- *Pulmonary system*
- *Acid base-balance during exercise*
- *Limiting factors to exercise performance*
- *Exercise testing for health and performance*

B. To select the appropriate tests for evaluating different components of fitness and athletic performance and become familiar with the current recommendations for exercise prescription for improving fitness and sport-specific performance.

## University Policies

University policies are summarized [here](#). This link will direct students to a separate webpage that will provide all required academic policies, such as attendance, grading, personal conduct, DRC and evaluation verbiage, as well as campus academic, health, and wellness resources.

## Course Policies

### ATTENDANCE POLICY

Since lectures will be pre-recorded, you do not need to be available during a specific class time. Keep in mind, students will be responsible for all material presented in the lectures, as well as any material posted on the class website. Exam questions will be derived from lecture material, assigned readings if any, and any class handouts posted on the class website.

### ACADEMIC DISHONESTY

Cheating on exams in any way will not be tolerated. Because all exams will be conducted online, *Honorlock* will be utilized as a proctoring service. **Any student caught cheating on any exam will receive a zero for that exam. There will be no exceptions. Additionally, the instructor may assign a failing grade for the course.** In all cases, students will be subject to the regulations and consequences, which can include probation or expulsion from the University, outlined in the Student Handbook.

### USE OF AI TECHNOLOGY

The use of any materials or resources prepared by another person or Entity (inclusive of generative AI tools) without the other person or Entity's express consent or without proper attribution to the other person or Entity is considered *cheating*. Additionally, the use of any materials or resources, through any medium, which the Faculty / Instructor has not given express permission to use and that may confer an academic benefit to a student, constitutes *cheating*.

In addition:

Materials (e.g. slides, videos) posted on the class website are the property of the instructor. They are posted solely for students in this course and solely to facilitate note-taking and studying. No part of the materials may be re-distributed, reproduced, or used for any purpose other than note-taking and studying.

## MAKE-UP POLICY

**Unexcused availability for exams will result in a zero on the exam.** Students who are ill or have an emergency that prevents them from taking an exam or completing an assignment on time are responsible for contacting the instructor as soon as possible. **Make-up exams and assignments are offered at the discretion of the instructor given that there is a medical, family, or other emergency that deems the need for a make-up.** Technological difficulties such as access to Wi-Fi, problems saving or submitting a document, etc are not grounds for a make-up on assignments. Requirements for make-up exams, assignments, and other work are consistent with [university policies](#).

Canvas: A ticket number received from UFIT Helpdesk must accompany requests for make-ups due to technical issues (see Academic Resources below). The ticket number will document the time and date of the problem. If the time and date are past the assignment deadline, the request may not be granted. You must e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

## COURSE EVALUATIONS

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online. Students can complete evaluations in three ways: (1) The email they receive from GatorEvals, (2) Their Canvas course menu under GatorEvals, or (3) The central portal located [here](#). Guidance on how to provide constructive feedback is available at [the gator evals site](#). Students will be notified when the evaluation period opens. Summaries of course evaluation results are also available at [the gator evals site](#).

## APK ADMINISTRATORS

For suggestions or concerns related to APK courses or programming, please reach out to any of the following:

- Dr. David Vaillancourt (he/him), APK Department Chair, [vcourt@ufl.edu](mailto:vcourt@ufl.edu)
- Dr. Demetra Christou (she/her), APK Department Vice Chair, [ddchristou@hnp.ufl.edu](mailto:ddchristou@hnp.ufl.edu)
- Dr. Steve Coombes (he/him), APK Graduate Coordinator, [rachaelseidler@ufl.edu](mailto:rachaelseidler@ufl.edu)
- Dr. Anna Gardner (she/her), APK Undergraduate Coordinator, [akgardner@ufl.edu](mailto:akgardner@ufl.edu)

## Grading

**Exams:** There will be four exams given throughout the course of the semester, including the final exam. Each exam will be worth 50 points. You will be told what chapters each exam will cover. The final exam will be cumulative and include all material covered during the semester. Exams will consist of multiple choice and true/false questions. Exam dates and chapters are listed in the syllabus on the course schedule page. Exams will be accessed via Canvas and use Honorlock proctoring services. For exams 1 through 3, students will have from 7:00 am to 10:00 pm on the day of the exam to log in and start the exam. Once the exam is started, students will have 65 minutes to complete the exam. You are not allowed to pause or leave the exam once it is started. Students are able to take the final exam starting at 7:00 am on Monday 12/8 up until 10 pm on Wednesday 12/10. Similar to exams 1 through 3, the final exam will be accessed via Canvas and use Honorlock. Once the final exam is started, students will have 90 minutes to complete the exam and are not able to pause or leave the exam. Access to the final exam will close at 10:00 pm on Wednesday 12/10 so students must be sure to start the exam no later than 8:30 pm on 12/10. If the final exam is started after 8:30 pm and you are still taking it, Canvas will automatically submit the exam at 10:00 pm.

**\*\*\* Please complete the Honorlock Practice Quiz under Assignments in Canvas. This will ensure you have the necessary Honorlock Chrome extension required to complete the online exams. Accommodations will not be made for students who do not have the necessary browser capabilities for exams.**

**Calculation Activity:** Students will complete a calculation activity in line with learning from Chapter 1. The document for this assignment is located in the Pages tab under the Chapter 1 Calculation Activity Assignment folder. This assignment is worth 10 points and must be submitted to Canvas by Friday 9/5. Late submissions will incur the following grade penalty: 20% deduction if submitted within 24 hours after deadline, 40% deduction if submitted 24-48 hours after deadline. Any submissions over 48 hours past the deadline will not be accepted and will receive a 0 on the assignment.

**Extra credit:** There will be TWO extra credit opportunities provided throughout the semester. One will be based on review of a scientific manuscript and the other will be a case study. The extra credit assignments are each worth 5 points. The extra credit opportunities are completely optional and are not required as a part of this course. Extra credit assignments must be typed, using 12-point font in Arial or Times New Roman. They must be submitted via Canvas. Plagiarism software designed to detect AI use will be used to grade these assignments. **The extra credit assignments are due no later than Wednesday, December 3 at 11:59 pm. There will be no exceptions made for late submissions.**

**Final Grades:** Your final course grade will consist of the evaluations listed above, as well as the extra credit opportunities (should you choose to complete them). Final grades will not be rounded. **Students should not email the instructor requesting consideration for a higher grade or additional extra-credit. Any such requests will be respectfully ignored.**

Assessments:

Calc Activity	10 points
Exam #1	50 points
Exam #2	50 points
Exam #3	50 points
Exam #4	50 points
Total:	210 points

Extra Credit (optional):

Article Review	5 points
Case Study	5 points

## GRADING SCALE

Any discrepancies with points displayed in the Canvas gradebook should be pointed out to the instructor *before* the final exam. **There is no curve or rounding of grades for this course. Note: A grade of C or better is required to "pass" this course. A grade of C- or lower is insufficient.** More detailed information regarding current UF grading policies can be found here: <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>.

Grading Scale:

Letter Grade	Percentage of Total Points	GPA Impact
A	93.0-100	4.0
A-	90.0-92.99	3.66
B+	87.0-89.99	3.33
B	83.0-86.9	3.0
B-	80.0-82.99	2.66
C+	77.0-79.99	2.33
C	73.0-76.99	2.0
C-	70.0-72.99	1.66

D+	67.0-69.99	1.33
D	63.0-66.99	1.0
D-	60.0-62.99	.66
E	Below 60	0.0

## Weekly Course Schedule

Week	Dates	Topic(s)
1	8/22	Introduction to Course
2	8/25-8/29	Chapter 0: History of Exercise Physiology Chapter 1: Common Measurements
3	9/1-9/5	<b>NO CLASS MONDAY 9/1 - LABOR DAY</b> Chapter 2: Control of Internal Environment <b>Calculation Activity Due Friday 9/5!</b>
4	9/8-9/12	Chapter 3: Bioenergetics Chapter 4: Exercise Metabolism
5	9/15-9/19	Chapter 4: Exercise Metabolism (cont'd) Chapter 5: Cell Signaling & Hormonal Response to Exercise
6	9/22-9/26	<b>EXAM #1 (MONDAY 9/22: Ch 0-5)</b> Chapter 7: The Nervous System Chapter 8: Skeletal Muscle: Structure & Function
7	9/29-10/3	Chapter 8: Skeletal Muscle: Structure & Function (cont'd) Chapter 9: Circulatory Response to Exercise
8	10/6-10/10	Chapter 9: Circulatory Response to Exercise (cont'd) <b>EXAM #2 (FRIDAY 10/10: Ch 7-9)</b>
9	10/13-10/17	Chapter 10: Respiration during Exercise <b>NO CLASS FRIDAY 10/17 - HOMECOMING</b>
10	10/20-10/24	Chapter 11: Acid- Base Balance Chapter 12: Temperature Regulation
11	10/27-10/31	Chapter 13: Physiology of Training
12	11/3-11/7	<b>EXAM #3 (MONDAY 11/3: Ch 10-13)</b> Chapter 15: Exercise Tests to Evaluate Cardiovascular Fitness

13	11/10-11/14	Chapter 16: Exercise Prescription Chapter 17: Special Populations
14	11/17-11/21	Chapter 18: Nutrition & Body Composition
15	11/24-11/28	<b>NO CLASS THIS WEEK – HAPPY THANKSGIVING!</b>
16	12/1-12/5	<b>NO CLASS THIS WEEK</b> <b>Extra Credit Due Wednesday 12/3!!!</b>
Finals week	12/8-12/10	<b>Cumulative Final Exam (see instructions under Exams in syllabus)</b>

### SUCCESS AND STUDY TIPS

- Use reading from the text to supplement what is covered in the lecture.
- Snowball lecture material.
- If there was something in the textbook that was not in the lecture, you are not expected to know it.
- Stay on top of course material.** This course covers a lot of information at a fast pace. You will easily become overwhelmed if you procrastinate. Avoid studying at the last minute and cramming for exams.
- Check Canvas announcements/emails daily. I will post important information as announcements.
- Prior to exams, create your own list of mock exam questions from the lecture material and use these to study.

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