UF Department of Applied Physiology and Kinesiology
College of Health and Human Performance
UNIVERSITY of FLORIDA

Physiology of Exercise & Training

APK3110 | Class # 26235 | 3 Credits | Spring 2024

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Course Info

INSTRUCTOR

Dr. Demetra Christou, Associate Professor
Office: 142 FLG
Office Phone: 352-294-1715
Email: ddchristou@ufl.edu
Preferred Method of Contact: **CANVAS**

OFFICE HOURS

T 2 to 3 or by appointment

MEETING LOCATION/TIME

FLG 285/ Tuesday periods 5-6 (11:45 AM – 1:40 PM)
FLG 285/ Thursday period 6 (12:50 PM – 1:40 PM)

COURSE DESCRIPTION

This introductory course in exercise physiology is designed to provide an overview of the acute and chronic physiological responses to exercise. Particular attention is placed on muscle bioenergetics and metabolism, as well as the cardiopulmonary responses to exercise. Special topics include exercise testing and prescription, training adaptations and exercise in hot and cold environments.

PREREQUISITE KNOWLEDGE AND SKILLS

The prerequisite for this course is successful completion of APK 2105C (Applied Human Physiology) with a grade of C or better and junior standing or above.

REQUIRED AND RECOMMENDED MATERIALS

Exercise Physiology: Theory and Application to Fitness and Performance by Powers & Howley 11th edition.

Class materials will also include PowerPoint slides, and other resources. These materials will be made available on CANVAS. Students are responsible for studying all assigned materials.

COURSE FORMAT

The course will entail synchronous in-person instruction on the scheduled days/times. *There will be no recordings of the lectures posted.* Attendance of all scheduled meetings in person is required. More detailed information will be made available on CANVAS.

COURSE LEARNING OBJECTIVES:

By the end of this course, students will be able to:

1. discuss the physiological responses to acute and chronic exercise related to:
   - Skeletal muscle
   - Cardiovascular system
   - Pulmonary system
   - Endocrine system
   - Nervous system
   - Bioenergetics and exercise metabolism
   - Temperature and acid base regulation
   - Factors affecting performance
2. select the appropriate tests for evaluating different components of fitness and discuss the current recommendations for exercise prescription.

Course & University Policies

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx.

ATTENDANCE POLICY

Students are expected to attend class in person on the scheduled days/times. Please note: The University has specific reasons that are acceptable for missing class which apply to both undergrad and grad students: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

PERSONAL CONDUCT POLICY

Students are expected to exhibit behaviors that reflect highly upon themselves and our University. UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, students are obliged to report any condition that facilitates academic misconduct to appropriate personnel. If there are any questions or concerns, students should consult the instructor of this class.

EXAM MAKE-UP POLICY

Unexcused absences on exam days will result in a zero on the exam. The University has specific reasons that are acceptable for missing class: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx. Any make-up exam will be at the discretion of the instructor. Scheduling make-up exams is the responsibility of the student and should be done—if at all possible—before the scheduled exam. A student experiencing an illness should visit the UF Student Health Care Center or their preferred healthcare provider to seek medical advice and obtain documentation. If you have an illness, family emergency or death, please contact the Dean of Students Office (www.dso.ufl.edu) and follow the DSO Care Team procedures for documentation and submission of a request for make-up assignment (https://care.dso.ufl.edu/instructor-notifications/). The DSO will contact the instructor. Do not provide any documentation to the instructor regarding illness or family emergency. This is your personal and

protected information. The DSO is qualified to receive and verify the documents you provide. The instructor will follow the recommendations from the DSO.

ACCOMMODATING STUDENTS WITH DISABILITIES

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center by visiting their Get Started page at https://disability.ufl.edu/students/get-started/. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester. For optimal consideration, students must see the instructor within the first week of class.

COURSE EVALUATIONS

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

TECHNOLOGY CONSIDERATIONS

Instruction will be delivered in person during the scheduled days/times. Students are encouraged to bring their laptop/tablet to class. Surfing the web, checking your email, making Facebook posts, or anything of that nature is unacceptable and strictly prohibited. Please keep your cell phone on silent. Recording of student presentations, in class assessments, private conversations between students in the class or between a student and the faculty during a class session is strictly prohibited. The content of this course may not be used for any commercial purpose or published without the written consent of the instructor. To "publish" means to share, transmit, circulate, distribute, or provide access to material, regardless of format or medium, to another person, including but not limited to another student within the same class section. Students found in violation of these policies will be subject to discipline under UF's Conduct Code.

Getting Help

HEALTH & WELLNESS

- U Matter, We Care: If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575
- Counseling and Wellness Center: https://counseling.ufl.edu/, 352-392-1575
- Sexual Assault Recovery Services (SARS) - Student Health Care Center, 392-1161
- University Police Department, 392-1111 (or 9-1-1 for emergencies) http://www.police.ufl.edu/

ACADEMIC RESOURCES

- E-learning technical support, 352-392-4357 (select opti on 2) or e-mail to Learning-support@ufl.edu. https://lss.at.ufl.edu/help.shtml
- Career Connections Center, Reitz Union, 392-1601. Career assistance and counseling. https://career.ufl.edu/
- Library Support, http://cms.uflib.ufl.edu/ask. Various ways to receive assistance with respect to using the libraries or finding resources.
- Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. http://teachingcenter.ufl.edu/

- Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. http://writing.ufl.edu/writing-studio/
- Student Complaints On-Campus: https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/ On-Line Students Complaints: http://distance.ufl.edu/student-complaint-process/

CIVILITY, ACCESSIBILITY AND COMMUNITY RESOURCES

For suggestions or concerns, please reach out to me or any of the following:

- Dr. Ashley Smuder, APK Culture and Engagement Committee Chair, a.smuder@ufl.edu
- Dr. Stephen Coombes, APK Graduate Coordinator, scoombes@ufl.edu
- Dr. Joslyn Ahlgren, APK Undergraduate Coordinator, jahlgren@ufl.edu

Grading

Exams – There will be 4 exams and each is worth 25 points. Exam questions are generated by the course instructor and are based on the lecture notes and textbook reading assignment. Questions will be multiple choice and true/false. Students will take exams in the same room where weekly meetings are held and will be allowed 50 minutes to complete each exam.

Extra credit quizzes – There will be 6 unannounced quizzes worth 0.5 point each which provide the opportunity to earn a total of 3 extra credit points. Quizzes will focus on the material that was covered during the previous *2 lectures* and aim to encourage/reward regular studying habits and attendance. You may be asked to draw a diagram, label a figure or answer true/false, multiple choice or short-answer questions. You must be present in class to earn extra credit from the quizzes. There will be NO make-up quizzes if you are absent.

GRADING SCALE

Exam scores will be uploaded directly on the CANVAS gradebook. If you feel there is an error in grading, please contact the instructor as soon as possible. The following grading scale will be used in this course:

Letter Grade	Percent of Total Points Associated with Each Letter Grade
A	90-100%
B+	87-89%
B	80-86%
C+	77-79%
C	70-76%
D+	67-69%
D	60-66%
E	0-59%

More detailed information regarding current UF grading policies can be found here: https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/."

SUCCESS AND STUDY TIPS

- Read the assigned book chapters and study the lecture notes after each lecture. Do not fall behind. Keep up with the material and be prepared to take a quiz on every lecture day.
- Create your own questions and quiz yourself often.
- You will not be tested on material in the textbook that is not covered in the lectures.

Course Schedule*

Week	*Date*	*Lecture Topic*	*Book Chapter*
1	T – Jan 9	Course Introduction Common measurements	Syllabus 1
	R – Jan 11	Homeostasis/Bioenergetics	2/3
2	T – Jan 16	Bioenergetics	3
	R – Jan 18	Exercise Metabolism	4
3	T – Jan 23	Exercise Metabolism Review	4
	R – Jan 25	**EXAM 1**	1, 2, 3, 4
4	T – Jan 30	Hormonal Response to Exercise	5
	R – Feb 1	Hormonal Response to Exercise	5
5	T – Feb 6	Neural Control of Movement	7
	R – Feb 8	Skeletal Muscle	8
6	T – Feb 13	Cardiovascular Adjustments to Exercise Review	9
	R – Feb 15	**EXAM 2**	5, 7, 8
7	T – Feb 20	Cardiovascular Adjustments to Exercise	9
	R – Feb 22	Cardiovascular Adjustments to Exercise	9
8	T – Feb 27	Pulmonary Adjustments to Exercise	10

	R – Feb 29	Pulmonary Adjustments to Exercise	10
9	T – Mar 5	Acid-base Balance Temperature Regulation	11 12
	R – Mar 7	Temperature Regulation	12
10	T – Mar 12	**Spring Break**	
	R – Mar 14	**Spring Break**	
11	T – Mar 19	Training Adaptations to Aerobic Exercise Review	13
	R – Mar 21	**EXAM 3**	9, 10, 11, 12
12	T – Mar 26	Training Adaptations to Aerobic Exercise	13
	R – Mar 28	Training Adaptations to Resistance Exercise	14
13	T – Apr 2	Training Adaptations to Resistance Exercise	14
	R – Apr 4	TBA	
14	T – Apr 9	Exercise Prescription for Health and Fitness	16
	R – Apr 11	Training for Performance	20
15	T – Apr 16	Training for Performance Review	20
	R – Apr 18	**EXAM 4**	13, 14, 16, 20
16	T – Apr 23	TBA	