

## CLINICAL EXERCISE PHYSIOLOGY

APK 4120 ~ 3 CREDITS ~ FALL 2020

**INSTRUCTOR:**

**Anna Gardner, Ph.D.**

Office: 106-H

Office Phone: 352-294-1763

Email: [akgardner@ufl.edu](mailto:akgardner@ufl.edu)

Preferred Method of Contact: email

**OFFICE HOURS\*:**

MW 8:30 – 10 am or by appointment

**\*PLEASE NOTE:** Office hours will be held virtually. Please refer to the Zoom meeting links in the Canvas weekly announcements for the specific date you would like to attend.

**MEETING TIME/LOCATION (SEE APPROPRIATE CLASS NUMBER):**

**Class number 21073 (section 089D)**

MWF Period 1 (7:25 – 8:15 am) ONLINE

**Class number 10671 (section 2815)**

MWF Period 6 (12:50 – 1:40 pm) ONLINE

**COURSE DESCRIPTION:** Provides an understanding of recent advances in exercise physiology and exercise prescription for clinical populations. Particular attention is placed upon the study of acute and chronic responses to exercise in patients with cardiac, pulmonary, metabolic and musculoskeletal diseases.

**PREREQUISITE KNOWLEDGE AND SKILLS:** APK 3110C with minimum grade of C

## REQUIRED AND RECOMMENDED MATERIALS:

Recommended Textbook: *Clinical Exercise Physiology* by Ehrman, Gordon, Visich, & Keteyain (ISBN: 9781450412803). Copyright 2013, 3rd edition.

Additional materials such as handouts, lectures, and worksheets will be provided on the course website via Canvas.

**COURSE FORMAT:** Lectures will be pre-recorded and available prior to the day each topic is covered. 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:

Content: Identify, describe, and explain the basic concepts, theories and terminology of natural science and the scientific method within the subject areas of cardiac, pulmonary, and metabolic diseases. Identify, describe, and explain the major scientific developments within the subject area. Identify, describe, and explain relevant processes that govern biological and physical systems within the subject area.

Critical Thinking: Formulate empirically-testable hypotheses derived from the study of physical processes or living things within the subject area of cardiac, pulmonary, and metabolic diseases. Apply logical reasoning skills effectively through scientific criticism and argument within the subject area. Apply techniques of discovery and critical thinking effectively to evaluate experimental outcomes.

Communication: Communicate concepts clearly and effectively using written and/or graphic forms on examinations.

Course Objectives: Upon completion of this course, the student should have an understanding of the following topics in Clinical Exercise Physiology:

- a. Basic principles of health and exercise assessment
- b. Basic principles of cardiovascular physiology and clinical management
- c. Basic principles of respiratory system disorders and management
- d. Basic principles of endocrine and metabolic disorders and clinical management
- e. Basic principles of neuromuscular disorders and clinical management
- f. Basic principles of exercise training and prescription in patients with the above listed disorders
- g. Novel concepts involving exercise-based strategies as therapy for clinical conditions

## COURSE AND UNIVERSITY POLICIES:

**ATTENDANCE POLICY:** Since lectures will be pre-recorded, you do not need to be available during the 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.

**PERSONAL CONDUCT POLICY:** 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, you are obliged to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult the instructor in this class.

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.

In addition:

1. Students will be expected to show respect to the instructors and all students in the class. This includes any comments made on class discussion boards. All university regulations governing student behavior will be enforced.
2. Lecture recordings and notes 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.

**EXAM MAKE-UP POLICY:** **Unexcused absences/availability for exams will result in a zero on the exam.** Students who are ill or have an emergency that prevents from taking the exam during the time available are responsible for contacting the instructor as soon as possible. **Make-up exams 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.** Requirements for class attendance and make-up exams, assignments, and other work

are consistent with university policies that can be found at:  
<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

A student experiencing an illness should visit the UF Student Health Care Center 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](http://www.dso.ufl.edu)) and follow the DSO Care Team procedures for documentation and requesting a make-up assignment (<https://www.dso.ufl.edu/care/courtesy-letters/>). 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.

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.

**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.

**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/>.

## GETTING HELP:

### Health and Wellness

- U Matter, We Care: If you or a friend is in distress, please contact [umatter@ufl.edu](mailto: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 option 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/>

## GRADING:

**Exams:** There will be a total of 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, as well as questions derived from student presentations. Exams will consist of multiple choice and true/false questions. Exam dates are listed in the syllabus on the course schedule page. Exams will be accessed via Canvas and use Honorlock proctoring services. Students will have from 7:00 am to 10:00 pm to log in and start the exam. Once the exam is started, students will have 65 minutes to complete the exam.

**Case Studies:** There will be three case studies completed throughout the semester. These will be based on real-life scenarios with questions that allow you to apply what we've covered in class. Each case study is worth 5 points and is due by the date specified on the course schedule. Case studies must be typed, using 12-point font in Arial or Times New Roman and submitted via Canvas (under the Assignments tab).

**Current event assignment:** You will be placed in teams of 2 students and select a current topic or news (within last 5 years) in the field of clinical exercise physiology, and relevant to topics discussed in class (clinical conditions, exercise training, exercise-related strategies, impact of physical inactivity, etc). They may be in the form of news articles, stories, television clips, etc that have scientific rationale and research study underlying the story. Your team will create a video recording to present the current

event topic. Recordings can be done using any software you choose but I must be able to see your Powerpoint and hear your voices on the recording (I don't necessarily need to see you). Your presentation must discuss why the topic is relevant (does it support/refute material learned in class?), why it is novel, what are your own ideas/concerns about the topic (not mentioned in the news item), are there other conditions for which this news item may be relevant? Your presentation should be 8-10 minutes long. Start listening and paying attention to the news now... **you must submit your topic to the instructor by October 23rd.** Suggested links for searching ideas include (but not limited to) CNN health; Mayo Clinic Healthy Lifestyle; NY Times Health; Runners World; BBC health... **Your completed presentation is due no later than Wednesday, December 9 at 11:59 pm.** No late submissions will be accepted.

**Final Grades:** Your final course grade will consist of the evaluations listed above. No extra-credit assignments will be offered in this course. There will be no exceptions. **Students should not email the instructor requesting consideration for a higher grade or additional extra-credit. There will be no additional extra-credit provided in any circumstance.** This is a departmental policy and outside the control of the instructor.

Assessments:

Exam #1	50 points
Exam #2	50 points
Exam #3	50 points
Final exam	50 points
Case Study #1	5 points
Case Study #2	5 points
Case Study #3	5 points
<u>Presentation</u>	<u>20 points</u>
Total:	235 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 for this course.** More detailed information regarding current UF grading policies can be found here: <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>. *Any requests for additional 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.*

Grading Scale (%):

A 93.0-100	A- 90.0-92.9
B+ 87.0-89.9	B 83.0-86.9
B- 80-82.9	C+ 77.0-79.9
C 73.0-76.9	C- 70.0-72.9
D+ 67.0-69.9	D 63.0-66.9
D- 60.0-62.99	E Below 60.0

**WEEKLY COURSE SCHEDULE:**

Every effort will be made to adhere to the tentative lecture topics and exam dates listed. However, topic dates and exam dates are subject to change by the instructor with advance notice to students.

<b>Date</b>	<b>Topic</b>	<b>Text Chapter(s)</b>
Aug 31 (M)	Introduction to Course/ Presentation Assignment	
Sep 2 (W)	Profession of Clinical Exercise Physiology	1
Sep 4 (F)	General Interview and Examination Skills	4
Sep 7 (M)	<b>Labor Day - No Class ☺</b>	
Sep 9 (W)	GIES Cont'd	4
Sep 11 (F)	Graded Exercise Testing	5
Sep 14 (M)	Exercise Prescription	6
Sep 16 (W)	Exercise Prescription cont'd	6
Sep 18 (F)	Promoting a Physically Active Lifestyle	2
Sep 21 (M)	Case Study #1 (Due by Friday 9/25)	
Sep 23 (W)	<b>No Class- Study for Exam #1!</b>	
Sep 25 (F)	<b>Exam #1</b>	1, 2, 4, 5, 6
Sep 28 (M)	<b>No Class- Work Day for Presentations</b>	
Sep 30 (W)	Review of Cardiovascular Anatomy & Physiology	
Oct 2 (F)	Acute Coronary Syndromes	13
Oct 5 (M)	Revascularization of the Heart	14
Oct 7 (W)	Peripheral Artery Disease	16
Oct 9 (F)	Cardiac Electrical Pathophysiology	17
Oct 12 (M)	Make-up day (if necessary)	
Oct 14 (W)	<b>No Class- Study for Exam #2</b>	
Oct 16 (F)	<b>No Class- Homecoming ☺</b>	
Oct 19 (M)	<b>Exam #2</b>	CV Review, 13, 14, 16, 17
Oct 21 (W)	<b>No Class- Work Day for Presentations</b>	
Oct 23 (F)	Guest Lecture- Dean Reid- Asthma ( <b>PRESENTATION TOPIC DUE!</b> )	19
Oct 26 (M)	Guest Lecture- Dean Reid- COPD	18
Oct 28 (W)	Case Study #2 (Due by Monday 11/2)	
Oct 30 (F)	Arthritis	23
Nov 2 (M)	Older Adults/Osteoporosis	24, 32
Nov 4 (W)	Children	31
Nov 6 (F)	Make-up day (if necessary)	
Nov 9 (M)	<b>No Class- Study for Exam #3</b>	
Nov 11 (W)	<b>No Class- Veterans' Day</b>	
Nov 13 (F)	<b>Exam #3</b>	18, 19, 23, 24, 31, 32
Nov 16 (M)	<b>No Class- Work Day for Presentations</b>	
Nov 18 (W)	Diabetes	7
Nov 20 (F)	Case Study #3 (Due by Tuesday 11/24)	
Nov 23 (M)	Obesity & Metabolic Syndrome	8, 11
Nov 25 (W)	<b>No Class- HAPPY THANKSGIVING!</b>	
Nov 27 (F)	<b>No Class- HAPPY THANKSGIVING!</b>	
Nov 30 (M)	Stroke	29
Dec 2 (W)	Class Presentations	
Dec 4 (F)	Class Presentations	
Dec 7 (M)	Class Presentations	
Dec 9 (W)	<b>Class Presentations FINAL DUE DATE!</b>	
Dec 11 (F)	<b>No Class- Reading day</b>	
Dec 14 - 19	<b>Section 089D Cumulative Final Exam TBD</b>	All topics previously covered
Dec 14 - 19	<b>Section 2815 Cumulative Final Exam TBD</b>	All topics previously covered

## SUCCESS AND STUDY TIPS:

- a. Use reading from the text to supplement what is covered in the lecture
- b. Begin studying lecture material *immediately* after the first lecture.
- c. If there was something in the textbook that was not in the lecture, you are not expected to know it.
- d. **DO NOT FALL BEHIND.** 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.
- e. Check Canvas announcements/emails daily. I will post important information as announcements.
- f. Prior to exams, create your own list of mock exam questions from the lecture material and use these to study.
- g. Create your own “medical dictionary”. As we go through the chapters, highlight words/phrases you are unfamiliar with and add them (along with the meaning) to your dictionary. You will be responsible for knowing medical terminology.

**Current Event Assignment  
APK 4120**

You will be placed in teams of 2 students and select a current topic or news (within last 5 years) in the field of clinical exercise physiology, and relevant to topics discussed in class (clinical conditions, exercise training, exercise-related strategies, impact of physical inactivity, etc). They may be in the form of news articles, stories, television clips, etc that have scientific rationale and research study underlying the story. Your team will create a video recording to present the current event topic. Recordings can be done using any software you choose but I must be able to see your Powerpoint and hear your voices on the recording (I don't necessarily need to see you). Your presentation must discuss why the topic is relevant (does it support/refute material learned in class?), why it is novel, what are your own ideas/concerns about the topic (not mentioned in the news item), are there other conditions for which this news item may be relevant? Your presentation should be 8-10 minutes long. Start listening and paying attention to the news now... **you must submit your topic to the instructor by October 23rd.** Suggested links for searching ideas include (but not limited to) CNN health; Mayo Clinic Healthy Lifestyle; NY Times Health; Runners World; BBC health... **Your completed presentation is due no later than Wednesday, December 9 at 11:59 pm.**

**Topic ideas (but feel free to find others as well!):**

<i>Cancer</i>	<i>HIV/AIDS</i>
<i>Mental Health</i>	<i>Kidney Disease</i>
<i>Hyperlipidemia</i>	<i>Cystic Fibrosis</i>
<i>Spinal Cord Injury</i>	<i>Multiple Sclerosis</i>
<i>Cerebral Palsy</i>	<i>Parkinson's Disease</i>
<i>Alcoholism</i>	<i>Drug Abuse/Addiction</i>
<i>Alzheimer's</i>	<i>New advancements in treatment of a disease (medications, surgery, etc)</i>

Grading Rubric	Point value
Finalized topic by deadline	1
Identification of topic news source and scientific article linked to current event topic	2
Description of topic and its novelty (why did you choose it)	5
Relevance to clinical exercise physiology (does it support/refute material learned in class)?	2
Does your topic have relevance to another clinical condition, and if so, provide example?	2
What are your own ideas/concerns about the topic (not mentioned in news item)?	4
Overall presentation of topic (preparedness, clarity of slides, mixture of text and images, delivery of content, appropriate length)	4

**Total point value: 20 points**