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

Clinical Exercise Physiology

APK4120 | 3 Credits | Spring 2026

Course Info

INSTRUCTOR

Anna Gardner, PhD
Office: FLG 106-H
Email: akgardner@ufl.edu

OFFICE HOURS

MW 8:30 - 9:20 am and 10:30 -11:30 am or by appointment
*PLEASE NOTE: Office hours will be held in person unless otherwise indicated by the instructor.

MEETING TIME/LOCATION

Class number 15848 (section 0947)
MWF Period 5 11:45 am - 12:35 pm FLG 285

Class number 10415 (section 1A57)
MWF Period 6 12:50 - 1:40 pm FLG 285

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: 9781718200449). Copyright 2023, 5th edition. Available via UF All Access.

Additional materials will be provided on the course website via Canvas. Students will be informed when to bring materials to class OR materials will be provided by the instructor.

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

COURSE FORMAT

Students will attend live lectures three times each week. Lecture slides will be available to students to print before coming to class.

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

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

Attendance is not required *but is strongly encouraged*. **Failure to attend class will almost certainly result in a significantly lowered grade**. Students will be responsible for all material presented in class in addition to any material posted on the class website. Lectures will not be recorded/posted, so it is the student's responsibility to get notes from a classmate following an absence. Exam questions will be derived from lecture material as presented in class, 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. Cheating includes, but is not limited to: attempting to look or looking at another student's exam or answers; or allowing another student to look at one's exam or answers. If a student is made aware of cheating, approached by another student to conspire to cheat, or concerned that another student may be attempting to look at his/her exam or answers, it is that student's responsibility to notify the instructor to avoid implication in cheating incidents. **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:

1. Phones must be turned to silent or off during all lectures and exams. Vibrate and quiet settings are not acceptable. They should never be visible during an exam and, if seen, will be looked upon as an attempt to use it resulting in the consequences shown below in "Academic Honesty".

2. Students will be expected to show respect to the instructors and all students in the class. Students behaving disrespectfully (talking during lectures, making inappropriate or threatening statements to instructor or students, using phones in class, etc.) will be dismissed from the lecture or exam at hand. All university regulations governing student behavior will be enforced.

3. Lectures will begin at the scheduled times. Students will be expected to arrive on-time, and in the event of tardiness, to enter the room with as little disruption as possible.

4. Lecture 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.

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 from taking the 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.

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
- Dr. Demetra Christou (she/her), APK Department Vice Chair, ddchristou@hhp.ufl.edu
- Dr. Steve Coombes (he/him), APK Graduate Coordinator, rachaelseidler@ufl.edu
- Dr. Anna Gardner (she/her), APK Undergraduate Coordinator, akgardner@ufl.edu

Grading

Exams: There will be a total of four exams given throughout the semester, including the final exam. Exams 1 through 3 will each be worth 50 points. You will be told what chapters each exam will cover. The final exam is worth 50 points and ***will be cumulative,*** including all material covered during the semester as well as 5 selected term papers. Exams will consist of multiple choice, fill-in-the-blank, short answer, and true/false questions. Exam dates are listed in the syllabus on the course schedule page. You must take the exam during your regularly-scheduled class time (i.e. the section you are assigned to in ONE.UF) unless prior arrangements were made with the instructor. All students must be present at the scheduled exam prior to any student completing the exam and leaving the examination room. Once any student has completed the exam and left the exam room, late-arriving students will receive a 50% grade penalty on 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. Case studies 1 and 2 are each worth 15 points and case study 3 is worth 20 points. Each case study is due by the date specified on the course schedule. You are given ample time to complete this assignment, therefore, late submissions will incur the following penalties: 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. Case studies must be typed and submitted via Canvas (under the Assignments tab).

Reflection paper: Students will complete one reflection paper at the beginning of the semester. The reflection paper is worth 10 points. Points will be awarded based on communication (25%: A clear, compelling, respectful, and effective communication of the questions you are asked to address in the reflection), connection (25%: A thoughtful, profound, and insightful connection of the course learning experiences to previous learning), content (25%: A detailed and thorough response to each of the questions you are asked to address, as well as meeting the 1-page minimum), and critical thinking (25%: An insightful and perceptive analysis of the learning experience and its value to the student's personal and professional growth). Each reflection paper must be submitted on Canvas as a Word document. Your paper should be at least one page in length (12 point, double-spaced, Times New Roman, 1" margins all around) and address each of the items listed below. Late submissions will receive the following 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. It is your responsibility to check the submitted file to ensure it is the correct document. Exceptions will not be made for students who inadvertently submit the wrong file.

Your reflection paper should address the following five items:

- Feel free to share a little bit about yourself 🙂 Career plans, hometown, interests, etc.
- What made you choose to take this course?
- What do you look forward to learning in this course?
- Prior to this course, what knowledge (if any) did you have of Clinical Exercise Physiology?
- (Following Chapter 1 lecture…) Considering your future career intentions, what ways do you foresee interacting with CEPs in the future?

Term Paper: The purpose of the term paper is to expand students' knowledge and understanding and apply course material to a disease or condition of interest. Students will be responsible for selecting the disease/condition, however, it cannot be one already covered in lecture (see course schedule for a list of lecture topics). **Students must email the instructor the selected disease/condition by Monday, September 8**. Students are encouraged to begin working on the term paper early in the semester. The **final paper is due Friday, October 31** and must be submitted on Canvas as a Word document. The term paper should (at a minimum) address each item in the rubric below and must be formatted with size 12 point, Times New Roman font and be double-spaced with 1" margins all around. Term papers should be a minimum of 5 pages, not including references. Reference the Term Paper assignment in Canvas for more specific information on formatting. The use of generative AI tools for writing this paper is not allowed. Late submissions will receive the following 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. It is your responsibility to check the submitted file to ensure it is the correct document. Exceptions will not be made for students who inadvertently submit the wrong file.

The instructor will select 5 term papers to be read by the entire class. Questions will be derived from these 5 term papers and included on the final exam.

Grading Rubric	Point value
Condition/disease emailed to Dr. Gardner by deadline	1
Disease scope and definition (examples: prevalence, does it affect certain individuals more than others?)	7
Disease signs/symptoms and pathophysiology	10
Diagnosis & Treatment	10
Special Considerations for Exercise Testing & Prescription	7
Mechanics & Support (Turnitin report, grammar, formatting, sufficient references)	5

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

Evaluation Components	Points Per Component	Approximate % of Total Grade
Exams (4)	50 pts each = 200 pts	200/300 = 67%

Case Studies (3)	15 + 15+ 20= 50 pts	50/300 = 17%
Reflection Paper (1)	10 pts	10/300 = 3%
Term Paper (1)	40 pts	40/300 = 13%

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. Grades will not be rounded.** More detailed information regarding current UF grading policies can be found here. Any requests for additional extra credit or special exceptions to these grading policies will be respectfully ignored.

Grading Scale:

Letter Grade	Percentage of Total Points	GPA Impact
A	90.0-100	(GPA 4.0)
B+	87.0-89.9	(GPA 3.33)
B	80.0-86.9	(GPA 3.0)
C+	77.0-79.9	(GPA 2.33)
C	70.0-76.9	(GPA 2.0)
D+	67.0-69.9	(GPA 1.33)
D	60.0-66.9	(GPA 1.0)
E	Below 60	(GPA 0.0)

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.

Date	Topic	Chapter(s)
Jan 12 (M)	Introduction to Course/Presentation Assignment	
Jan 14 (W)	Profession of Clinical Exercise Physiology	1
Jan 16 (F)	General Interview and Examination Skills (GIES)	4
Jan 19 (M)	**No Class - MLK Jr. Day**	
Jan 21 (W)	GIES Cont'd - Reflection paper due today!	4
Jan 23 (F)	GIES Cont'd	4
Jan 26 (M)	Graded Exercise Testing	5
Jan 28 (W)	Graded Exercise Testing Cont'd	5
Jan 30 (F)	Exercise Prescription - Term paper topic due today!	6
Feb 2 (M)	Promoting a Physically Active Lifestyle	2
Feb 4 (W)	Promoting a Physically Active Lifestyle Cont'd	2
Feb 6 (F)	**Exam #1**	1, 2, 4, 5, 6
Feb 9 (M)	No Formal Class - Watch recorded lecture on Review of Cardiovascular Anatomy & Physiology	
Feb 11 (W)	Acute Coronary Syndromes	14

Feb 13 (F)	Acute Coronary Syndromes (Cont'd)	14
Feb 16 (M)	Revascularization of the Heart - Case Study #1 due today!	15
Feb 18 (W)	Revascularization of the Heart (Cont'd)	15
Feb 20 (F)	Revascularization of the Heart (Cont'd)/Peripheral Artery Disease	15, 17
Feb 23 (M)	Peripheral Artery Disease	17
Feb 25 (W)	Peripheral Artery Disease Cont'd	17
Feb 27 (F)	**NO CLASS** - Dr. Gardner at SEACSM Meeting	
Mar 2 (M)	Cardiac Electrical Pathophysiology	18
Mar 4 (W)	Cardiac Electrical Pathophysiology Cont'd	18
Mar 6 (F)	**Exam #2**	CV Review, 14, 15, 17, 18
Mar 9 (M)	No Formal Class – Watch recorded guest lecture by Dean Reid on Asthma	20
Mar 11 (W)	No Formal Class – Watch recorded guest lecture by Dean Reid on COPD	19
Mar 13 (F)	No Formal Class - Case Study #2 due today!	
Mar 16-20	**SPRING BREAK** ☺	
Mar 23 (M)	Arthritis	24
Mar 25 (W)	Arthritis Cont'd	24
Mar 27 (F)	Older Adults/Osteoporosis - Term Paper due today!	25, 33
Mar 30 (M)	Older Adults/Osteoporosis Cont'd	25, 33
Apr 1 (W)	Children	32
Apr 3 (F)	Children Cont'd	32
Apr 6 (M)	Makeup day (if necessary)	
Apr 8 (W)	**Exam #3**	19, 20, 24, 25, 32, 33
Apr 10 (F)	Diabetes	8
Apr 13 (M)	Diabetes Cont'd	8
Apr 15 (W)	Obesity & Metabolic Syndrome	9, 12
Apr 17 (F)	Obesity & Metabolic Syndrome Cont'd	9, 12
Apr 20 (M)	Stroke	30
Apr 22 (W)	Stroke Cont'd - Case Study #3 due today!	30
Apr 25 (F)	**No Class – Reading day**	
Apr 29	**Class number 15848 (this is the 11:45 am class)** *Cumulative* Final Exam **10 am - 12 noon**	All topics previously covered including group presentations
Apr 30	**Class number 10415 (this is the 12:50 pm class)** *Cumulative* Final Exam **10:00 am - 12 noon**	All topics previously covered including group presentations

SUCCESS AND STUDY TIPS

a. Snowball lecture material.

b. 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.

c. Check Canvas announcements/emails daily. I will post important information as announcements.

d. Prior to exams, create your own list of mock exam questions from the lecture material and use these to study.

e. 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.

f. Utilize GroupMe (APK 4120 Fall 2025) to ask questions, organize study sessions, etc.

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