

Clinical Exercise Physiology

APK4120 | 3 Credits | Spring 2025

Course Info

INSTRUCTOR

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

OFFICE HOURS

MW 10 - 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 16521 (section 0947)
MWF 11:45 - 12:35 pm FLG 285

Class number 10451 (section 1A57)
MWF 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.

COURSE FORMAT

Students will attend live lectures three times each week.

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 & University Policies

ATTENDANCE POLICY

Attendance is not required *but is strongly encouraged*. 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, 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.

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](#) specifies a number of behaviors that are in violation of this code and the possible sanctions. If you have any questions or concerns, please consult the instructor in this class.

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.

PLAGIARISM

Click [here](#) for UF's Plagiarism Policy. Plagiarism will not be tolerated and is considered a violation of UF's Academic Honesty policy. Plagiarism Definition: A student shall not represent as the student's own work all or any portion of the work of another. Plagiarism includes but is not limited to:

- Quoting oral or written materials including but not limited to those found on the internet, whether published or unpublished, without proper attribution
- Submitting a document or assignment which in whole or in part is identical or substantially identical to a document or assignment not authorized by the student
- Unauthorized use of materials or resources, including AI
- Prohibited collaboration or consultation
- Submission of paper or academic work purchased or obtained for an outside source

APPROPRIATE USE OF AI TECHNOLOGY

The UF Honor Code strictly prohibits cheating. 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.

EXAM 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 the exam during the time available are responsible for contacting the instructor as soon as possible, preferably before the exam takes place. **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 make-up exams, assignments, and other work are consistent with [university policies](#).

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](#) and follow the DSO Care Team [procedures](#) for documentation and requesting a make-up assignment. 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. 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. 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 at this [link](#). Summaries of course evaluation [results](#) are available to students.

Getting Help

HEALTH & WELLNESS

- **U Matter, We Care:** If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit [U Matter, We Care website](#) to refer or report a concern and a team member will reach out to the student in distress.
- **Counseling and Wellness Center:** Visit the [Counseling and Wellness Center website](#) or call 352-392-1575 for information on crisis services as well as non-crisis services.
- **Student Health Care Center:** Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the [Student Health Care Center website](#).
- **University Police Department:** Visit [UF Police Department website](#) or call 352-392-1111 (or 9-1-1 for emergencies).
- **UF Health Shands Emergency Room / Trauma Center:** For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; or visit the [UF Health Emergency Room and Trauma Center website](#).
- **GatorWell Health Promotion Services:** For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the [GatorWell website](#) or call 352-273-4450.

ACADEMIC RESOURCES

- **E-learning technical support:** Contact the [UF Computing Help Desk](#) at 352-392-4357 or via e-mail at helpdesk@ufl.edu.
- **Career Connections Center:** Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.
- **Library Support:** Various ways to receive assistance with respect to using the libraries or finding resources.
- **Teaching Center:** Broward Hall, 352-392-2010 or to make an appointment 352-392-6420. General study skills and tutoring.
- **Writing Studio:** 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers.
- **Student Complaints & Grievances:** Students are encouraged to communicate first with the involved person(s), but [here](#) is more information on the appropriate reporting process.

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@hwp.ufl.edu
- Dr. Steve Coombes (he/him), APK Graduate Coordinator, scoombes@ufl.edu
- Dr. Joslyn Ahlgren (she/her), APK Undergraduate Coordinator, jahlgren@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. Case studies must be typed and submitted via Canvas (under the Assignments tab). 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. 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.

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.

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 Friday, January 31.** Students are encouraged to begin working on the term paper early in the semester. The **final paper is due Friday, March 28** 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. Reference the Term Paper assignment in Canvas for more specific information on formatting. 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.

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. There will be no exceptions. **Students should not email the instructor requesting consideration for a higher grade or extra-credit. Any such requests will be respectfully ignored.**

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.** More detailed information regarding current UF grading policies can be found [here](#).

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	Text Chapter(s)
Jan 13 (M)	Introduction to Course/Presentation Assignment	
Jan 15 (W)	Profession of Clinical Exercise Physiology	1
Jan 17 (F)	General Interview and Examination Skills (GIES)	4
Jan 20 (M)	Holiday - MLK Jr. Day	
Jan 22 (W)	GIES Cont'd - Reflection paper due today!	4
Jan 24 (F)	Graded Exercise Testing	5
Jan 27 (M)	Graded Exercise Testing (cont'd)	5
Jan 29 (W)	Exercise Prescription	6
Jan 31 (F)	Exercise Prescription (cont'd) - Term paper topic due today!	6
Feb 3 (M)	Promoting a Physically Active Lifestyle	2
Feb 5 (W)	Makeup day (if necessary)	
Feb 7 (F)	Exam #1	1, 2, 4, 5, 6
Feb 10 (M)	No Formal Class - Watch recorded lecture on Review of Cardiovascular Anatomy & Physiology	
Feb 12 (W)	Acute Coronary Syndromes - Case Study #1 due today!	14
Feb 14 (F)	Acute Coronary Syndromes (Cont'd)	14
Feb 17 (M)	Revascularization of the Heart	15
Feb 19 (W)	Revascularization of the Heart (Cont'd)	15
Feb 21 (F)	NO CLASS - Dr. Gardner at SEACSM Meeting	
Feb 24 (M)	Peripheral Artery Disease	17
Feb 26 (W)	Peripheral Artery Disease (Cont'd)	17
Feb 28 (F)	Cardiac Electrical Pathophysiology	18
Mar 3 (M)	Cardiac Electrical Pathophysiology (Cont'd)	18
Mar 5 (W)	Makeup day (if necessary)	

Mar 7 (F)	Exam #2	CV Review, 14, 15, 17, 18
Mar 10 (M)	No Formal Class – Watch recorded guest lecture by Dean Reid on Asthma	20
Mar 12 (W)	No Formal Class – Watch recorded guest lecture by Dean Reid on COPD - Case Study #2 due today!	19
Mar 14 (F)	No Formal Class - Workday for Term Paper	
Mar 17-21	SPRING BREAK ☺	
Mar 24 (M)	Arthritis	24
Mar 26 (W)	Arthritis (Cont'd)	24
Mar 28 (F)	Older Adults/Osteoporosis - Term Paper due today!	25, 33
Mar 31 (M)	Older Adults/Osteoporosis (Cont'd)	25, 33
Apr 2 (W)	Children	32
Apr 4 (F)	Children (Cont'd)	32
Apr 7 (M)	Makeup day (if necessary)	
Apr 9 (W)	Exam #3	19, 20, 24, 25, 32, 33
Apr 11 (F)	Diabetes	8
Apr 14 (M)	Diabetes (Cont'd)	8
Apr 16 (W)	Obesity & Metabolic Syndrome	9, 12
Apr 18 (F)	Obesity & Metabolic Syndrome (Cont'd) - Case Study #3 due today!	9, 12
Apr 21 (M)	Stroke	30
Apr 23 (W)	Stroke (Cont'd)	30
Apr 26 (F)	No Class – Reading day	
Apr 29	Class number 16521 (Section 0947 - this is the 11:45 am class) <i>Cumulative Final Exam 3:00 - 5:00 pm</i>	All topics previously covered including group presentations
Apr 30	Class number 10451 (Section 1A57 - this is the 12:50 pm class) <i>Cumulative Final Exam 10:00 am - 12 noon</i>	All topics previously covered including group presentations

SUCCESS AND STUDY TIPS

a. Snowball lecture material.

b. **DO YOUR BEST TO STAY ON TRACK!** 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: Spring 2025) to ask questions, organize study sessions, etc.

Scan QR Code to access GroupMe

[End document]