

Clinical Exercise Physiology

APK4120 | 3 Credits | Spring 2023

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Course Info

INSTRUCTOR

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

OFFICE HOURS

MW 11:30 am – 1:00 pm or by appointment
*PLEASE NOTE: Office hours will be held in person unless otherwise indicated by the instructor.

MEETING TIME/LOCATION

Class number 10626 (section 1A57)
MWF Period 7 1:55 – 2:45 pm FLG 285

Class number 19386 (section 0947)
MWF Period 8 3:00 – 3:50 pm FLG 280

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

There is no required/recommended textbook for this course. Additional materials such as handouts, lectures, and worksheets will be provided on the course website via Canvas.

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

Course & University Policies

ATTENDANCE POLICY

Attendance is not required; however, **students will be responsible for all material presented in class in addition to any material posted on the class website. Failure to attend class will almost certainly result in a significantly lowered grade.** 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 (<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. 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.

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. No audio or video recordings may be made of any part of this course without written consent by the instructor who is administering that part of the course.
5. 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 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 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) 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 & 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/>

INCLUSION, DIVERSITY, EQUITY, AND ACCESSIBILITY RESOURCES

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

- Dr. Linda Nguyen, APK IDEA Liaison, linda.nguyen@hhp.ufl.edu
- Dr. Rachael Seidler, APK Graduate Coordinator, rachaelseidler@ufl.edu
- Dr. Joslyn Ahlgren, APK Undergraduate Coordinator, jahlgren@ufl.edu

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. Exams will consist of multiple choice, fill in the blank, 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, no late-arriving students will be admitted to 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 10 points and is due by the date specified on the course schedule. Because you are given ample time to complete the case study, no late submissions will be accepted. Case studies must be typed and submitted via Canvas (under the Assignments tab). Please note: Only one submission is allowed per case study. Therefore, please make sure only your final draft is submitted.

Current event assignment (see last page of syllabus for more detail as well): You will be placed in teams of 2-4 students (depending on class size) 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 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. Each group member must present to receive credit for the presentation. Start listening and paying attention to the news now... **you must submit your topic via email to the instructor by Wednesday, February 8th.** Please note, you must use topics different from ones already discussed in lecture. In addition, topics cannot be duplicated among groups; therefore, no two groups can present on the same topic. Topics are chosen on a first come, first served basis. Suggested links for searching ideas include (but not limited to) CNN health; Mayo Clinic Healthy Lifestyle; NY Times Health; Runners World; BBC health...

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. There will be no additional extra-credit provided in any circumstance.** This is a departmental policy and outside the control of the instructor. **Asking for a change to your grade or extra credit is considered academic dishonesty and can be reported as a student honor code violation.**

Assessments:

Exam #1	50 points
Exam #2	50 points
Exam #3	50 points
Final exam	50 points
Case Study #1	10 points
Case Study #2	10 points
Case Study #3	10 points
<u>Presentation</u>	<u>20 points</u>
Total:	250 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

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.

Date	Topic	Chapter(s)
Jan 9 (M)	Introduction to Course/ Presentation Assignment	
Jan 11 (W)	Profession of Clinical Exercise Physiology	1
Jan 13 (F)	General Interview and Examination Skills (GIES)	4
Jan 16 (M)	MLK, Jr. Day - No Class ☺	
Jan 18 (W)	GIES Cont'd	4
Jan 20 (F)	Graded Exercise Testing	5
Jan 23 (M)	Exercise Prescription	6
Jan 25 (W)	Exercise Prescription cont'd	6
Jan 27 (F)	Promoting a Physically Active Lifestyle	2
Jan 30 (M)	Case Study #1 (Due by Monday 2/6)	
Feb 1 (W)	Exam #1	1, 2, 4, 5, 6
Feb 3 (F)	Review of Cardiovascular Anatomy & Physiology	
Feb 6 (M)	Acute Coronary Syndromes	13
Feb 8 (W)	Revascularization of the Heart (PRESENTATION TOPIC DUE!)	14
Feb 10 (F)	Revascularization of the Heart (cont'd)	14
Feb 13 (M)	Peripheral Artery Disease	16
Feb 15 (W)	Cardiac Electrical Pathophysiology	17
Feb 17 (F)	Cardiac Electrical Pathophysiology (cont'd)	17
Feb 20 (M)	Exam #2	CV Review, 13, 14, 16, 17
Feb 22 (W)	Guest Lecture- Dean Reid- Asthma (watch recorded lecture)	19
Feb 24 (F)	Guest Lecture- Dean Reid- COPD (watch recorded lecture)	18
Feb 27 (M)	Case Study #2 (Due by Monday 3/6)	
Mar 1 (W)	Arthritis	23
Mar 3 (F)	Older Adults/Osteoporosis	24, 32
Mar 6 (M)	Older Adults/Osteoporosis (cont'd)	24, 32
Mar 8 (W)	Children	31
Mar 10 (F)	No Class- Work Day for Presentations	
Mar 13-17	SPRING BREAK WEEK! No Class ☺	
Mar 20 (M)	Children (cont'd)	31
Mar 22 (W)	Exam #3	18, 19, 23, 24, 31, 32
Mar 24 (F)	Obesity & Metabolic Syndrome	8, 11
Mar 27 (M)	No Class- Work Day for Presentations	
Mar 29 (W)	Diabetes	7
Mar 31 (F)	Diabetes (cont'd)	7
Apr 3 (M)	Case Study #3 (Due by Friday 4/7)	
Apr 5 (W)	Stroke	29
Apr 7 (F)	Stroke (cont'd)	29
Apr 10 (M) – April 21 (F)	Class Presentations	
Apr 24 - 28	No Class - Reading days	
May	Section 0947 Cumulative Final Exam	All topics previously covered
May	Section 1A57 Cumulative Final Exam	All topics previously covered

SUCCESS AND STUDY TIPS

- a. Begin studying lecture material *immediately* after the first lecture.
- b. **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.
- 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.

Current Event Assignment

You will be placed in teams of 2-4 students (depending on class size) 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 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. Each group member must present to receive credit for the presentation. Start listening and paying attention to the news now...**you must submit your topic to the instructor via email by Wednesday, February 8th**. Please note, you must use topics different from ones already discussed in lecture. In addition, topics cannot be duplicated among groups; therefore, no two groups can present on the same topic. Topics are chosen on a first come, first served basis. Suggested links for searching ideas include (but not limited to) CNN health; Mayo Clinic Healthy Lifestyle; NY Times Health; Runners World; BBC health...

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

<i>Cancer (be specific)</i>	<i>HIV/AIDS</i>
<i>Mental Health (be specific)</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