

CARDIOVASCULAR EXERCISE PHYSIOLOGY

APK7107 ~ 3 CREDITS ~ SPRING 2020

INSTRUCTOR: **Dr. Demetra Christou**
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Preferred method of contact: face to face in class or email

OFFICE HOURS: M 2:30 pm or by appointment

MEETING TIME/LOCATION: FLG 225, W 1:55 to 2:45 pm and WEIM 1070, F 1:55 to 3:50 pm

COURSE DESCRIPTION: The course is designed to provide an understanding of the basic mechanisms controlling cardiovascular function at rest and in response to exercise.

PREREQUISITE KNOWLEDGE AND SKILLS: APK 6116C-Physiological Bases of Exercise and Sport Sciences or equivalent.

REQUIRED AND RECOMMENDED MATERIALS: Class materials will include PowerPoint slides, research articles, and other online resources provided on CANVAS. You are responsible for reading all assigned materials.

Recommended textbooks to be used for background reading:

- 1) Advanced Cardiovascular Exercise Physiology, D Smith and B Fernhall, Champaign: Human Kinetics, 2011. ISBN: 978-0-7360-7392-9
- 2) Cardiovascular Physiology, 8th edition, R Berne and N Levy, St Louis: Mosby Publishing 2001. ISBN-10: 0-323-01127-6
- 3) Human Cardiovascular Control, LB Rowell. New York: Oxford University Press 1993. ISBN:0-19-507362-2

COURSE FORMAT: We will have two periods of in-class lecture and one period of presentation/discussion of published peer-reviewed research articles per week.

COURSE LEARNING OBJECTIVES:

By the end of this course, students should be able to

1. identify the mechanisms controlling cardiovascular function at rest
2. discuss the influence of aging on cardiovascular structure and function
3. identify the acute and chronic cardiovascular responses to exercise
4. present/critique research articles on cardiovascular exercise physiology
5. design and present a study proposal on a topic related to cardiovascular exercise physiology.

COURSE AND UNIVERSITY POLICIES:

Requirements for class attendance, make-up exams 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 and to actively participate in all activities and group discussions to receive participation points. Please note: The University has specific reasons that are acceptable for missing class which apply to both undergrad and grad students. You can find this at

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

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 of this class.

EXAM MAKE-UP POLICY: Unexcused absences on exam days will result in a zero on the exam. If you are ill or have an emergency that prevents you from taking the exam at the scheduled time, it is your responsibility to contact the instructor as soon as possible to try and schedule a make-up exam. Documentation of the illness or emergency will be required. 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.

COMMUNICATION: The best way to communicate with the instructor is face to face after class or by email (ddchristou@ufl.edu). You should expect to receive a response to your email usually within 24 to 48 hours. You are responsible for checking course postings on CANVAS. All course grades will be posted on CANVAS. Any discrepancies should be pointed out to the instructor as soon as possible, and before the last day of class.

TECHNOLOGY: Please bring your laptop/tablet to class. However, 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. Any cell phone or other electronic device used during a quiz will be considered a violation of the student honor code (i.e., cheating) and will also result in a zero for that exam. Recording of lectures is strictly prohibited. The content of this course may not be used for any commercial purpose. Students found in violation of these policies may be subject to discipline under UF's Conduct Code.

ACCOMMODATING STUDENTS WITH DISABILITIES: Students requesting accommodation for disabilities must first register with the Dean of Students Office (<http://www.dso.ufl.edu/drc/>). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes. For optimal consideration, you must see the instructor within the first three days of class. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

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 or 352 392-1575
- Counseling and Wellness Center: <https://counseling.ufl.edu/>, 352-392-1575
- Sexual Assault Recovery Services (SARS) - Student Health Care Center, 352-392-1161
- University Police Department, 352-392-1111 (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, 352-392-1601. 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, 352-392-2010 or 352-392-6420. General study skills and tutoring. <http://teachingcenter.ufl.edu/>
- Writing Studio, 302 Tigert Hall, 352-846-1138. 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:

Evaluation Components	% of Total Grade
Exam 1, 2 and 3 (20% each)	60%
Presentations	15%
Study proposal	15%
Participation	10%

Exams – There will be 3 exams in this course and will focus on the reading assignments and material presented in lectures. Exams will be scheduled during normal class meetings.

Presentations – Research articles will be selected by the instructor and assigned to each student for presentation. The order of presenters and articles will be posted on CANVAS. Students are responsible for reading carefully all assigned articles and being prepared to participate in the discussions. Specific instructions related to the presentations will be provided in class.

Study proposal – You will design and present a study proposal on a topic related to cardiovascular exercise physiology. Detailed information will be provided on CANVAS.

Participation – You are expected to attend class and contribute to discussions to receive full participation points.

GRADING SCALE: The following grading scale will be used in this course.

Letter Grade	Percent of Total Points	GPA Impact of Each Letter Grade
A	90-100%	4.00
B+	87-89%	3.33
B	80-86%	3.00
C+	77-79%	2.33
C	70-76%	2.00
D+	67-69%	1.33
D	60-66%	1.00
E	0-59%	0

For detailed information on current UF grading policies, please see the catalog:

<https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

TENTATIVE COURSE SCHEDULE:

Week	Date	Topic
1	W – Jan 8	Course overview
	F – Jan 10	Intro and presentation/study proposal instructions
2	W – Jan 15	Heart as a pump
	F – Jan 17	Cardiac myocytes/presentation
3	W – Jan 22	Electrical activity of the heart
	F – Jan 24	Electrical activity of the heart/presentation
4	W – Jan 29	Vascular structure and function
	F – Jan 31	Vascular structure and function/presentation
5	W – Feb 5	Exam 1
	F – Feb 7	Endothelial and vascular smooth muscle function/presentation
6	W – Feb 12	Endothelial and vascular smooth muscle function
	F – Feb 14	Hemodynamics and peripheral circulation/presentation
7	W – Feb 19	Hemodynamics and peripheral circulation
	F – Feb 21	Arterial blood pressure and arterial stiffening/presentation

8	W – Feb 26	Arterial blood pressure and arterial stiffening
	F – Feb 28	Arterial blood pressure and arterial stiffening/presentation
9	W – Mar 4	SPRING BREAK
	F – Mar 6	SPRING BREAK
10	W – Mar 11	Exam 2
	F – Mar 13	Aging
11	W – Mar 18	Aging
	F – Mar 20	Acute exercise responses/presentation
12	W – Mar 25	Chronic training adaptations
	F – Mar 27	Chronic training adaptations/presentation
13	W – Apr 1	Chronic training adaptations
	F – Apr 3	Work on study proposal
14	W – Apr 8	Work on study proposal
	F – Apr 10	Study proposal presentations
15	W – Apr 15	Exam 3
	F – Apr 17	Work on study proposal
16	W – Apr 22	Study proposal presentations