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

APPLIED HUMAN PHYSIOLOGY

APK2105 | 4 Credits | Summer A 2022

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Course Info

INSTRUCTOR

Ben Gordon, Ph.D., NSCA-CSCS, ACSM C-EP
Office: FLG 106I
Office Phone: 352-294-1755
Email: bgordon1@ufl.edu
Preferred Method of Contact: email

OFFICE HOURS

Weekly office hours by appointment, schedule a zoom meeting with the instructor at your preferred time.

MEETING TIME/LOCATION

Live Review Lectures on Monday will be at the scheduled time of 8a in Turlington L007
EXAMS IN FL Gym Lab 107D and E on second lab period of the week

CLASS #	LAB TIME	LOCATION	TA
10281	MW 2-3 (9:30am-12:15pm)	ONLINE	Florian Roth Florian.roth@ufl.edu
10282	T,Th 2-3 (9:30am-12:15pm)	ONLINE	Joongsuk Kim Joongsuk.kim@ufl.edu
10283	T, Th 4-5 (12:30-3:15pm)	ONLINE	Sushain Kaul sushainkaul@ufl.edu
10284	MW 4-5 (12:30-3:15pm)	ONLINE	Michael Rua Michaelrua@ufl.edu
10285	MW 4-5 (12:30-3:15pm)	ONLINE	Michael Rua
10286	MW 2-3 (9:30am-12:15pm)	ONLINE	Florian Roth
10287	T,Th 2-3 (9:30am-12:15pm)	ONLINE	Joongsuk Kim
10288	T,Th 4-5 (12:30-3:15pm)	ONLINE	Sushain Kaul

COURSE DESCRIPTION

This physiology course will introduce the functions of the human body at the cellular, tissue, organ, systemic, and organismal levels with heavy emphasis on mechanisms of action.

PREREQUISITE KNOWLEDGE AND SKILLS

Sophomore, Junior, or Senior status. Any previous experiences in the following areas will be helpful to students: medical terminology, anatomy, physics, chemistry, and/or biology. To be clear: you do not need to have taken any of these courses to be successful in this course.

REQUIRED AND RECOMMENDED MATERIALS

For this course, students MUST access two resources: (1) the textbook, and (2) MasteringA&P website (where labs will be completed). Options regarding how to gain access to these required course materials are described below.

Textbook: Principles of Human Physiology by Cindy L. Stanfield, 6th edition. Pearson.

Option A (recommended especially to students with financial aid): Students will have the choice to use UF's All Access program. Once classes begin, students can "Opt-In" to MasteringA&P access through a link provided in CANVAS for a reduced price and pay for these materials through their UF student account. This option gives students access to an e-version of the textbook AND access to MasteringA&P. To do this, log into your CANVAS account and navigate to the APK 2105c course homepage. On the left-hand side of the window, select My Lab and Mastering—then follow the prompts accordingly. *Detailed instructions will also be posted in CANVAS.*

Option B: Students who do not choose to participate in UF's All Access program can purchase a standalone MasteringA&P access code at the UF Bookstore. There will also be a discounted, loose-leaf print version of the textbook available at the UF Bookstore for students who would like an additional printed resource for the course. Also, a textbook is available at Marston Science Library here on campus at the reserve desk.

COURSE FORMAT

Students will watch pre-recorded lecture videos. It is recommended that you read the text in advance of this and then take good notes during the lectures. You can do this at your own pace, however exams will be weekly, so students are encouraged to adhere to the recommended schedule at the end of the syllabus. In addition to the pre-recorded lecture videos there will be a live recitation class every Monday (it will also be recorded, but you need to be online during the lecture to ask questions) to review the material covered that week in the videos. **Labs:** For the lab modules, students will perform simulations on the Mastering A&P website and will answer a series of questions that will be turned in for a grade. Students can (it's not mandatory) meet with their TA's during their lab times to discuss with Teaching Assistant (TA) any issues or problems with the PhsyioEx Labs. **Exams**: Every Monday, students will have open source/collaborative exams in the form of a CANVAS quiz. These are open resource exams and students are encouraged to work with classmates to complete these. Every other week on **the second lab period of the week (either Wednesday or Thursday depending on the section)**, students will take individual exams. The individual exams will be administered in Florida Gym 107D and 107E during the scheduled lab time. Students will have 60 minutes to complete the exam.

COURSE LEARNING OBJECTIVES:

The following table describes the UF General Education student learning outcomes (SLOs) and the specific learning objectives for APK 2105c. By the end of this course, students should be able to:

Gen Ed SLOs	APK 2105c Course Goals	Assessment Method
Content: Demonstrate competence in the terminology, concepts, methodologies and theories used within the discipline.	• Describe the basic structures as well as the basic and more complex functions of the cell, the endocrine, nervous, muscular, cardiovascular, respiratory, and renal systems • Name and give examples of key physiological themes and basic regulatory mechanisms for sustaining life/health (e.g. homeostasis, negative and positive feedback) • Explain how major systems of the body are integrated and how these interactions influence homeostasis	• Collaborative exams • Individual exams • Lab quizzes
Communication: Communicate knowledge, ideas, and reasoning clearly and effectively in written or oral forms appropriate to the discipline.	• Use correct anatomical, physiological, scientific, and medical terminology to describe and explain physiological phenomena, experiments used to study such phenomena, and how disease or injury impacts those processes	• Online lab module essay questions and post lab quizzes
Critical Thinking: Analyze information carefully and logically from multiple perspectives, using discipline specific methods, and develop reasoned solutions to problems.	• Predict how perturbations (e.g., disease, experimental manipulations) will alter physiological function and identify the mechanisms of action involved • Generate and interpret various graphical representations of physiological data	• Collaborative exams • Individual exams •

Course & University Policies

ATTENDANCE POLICY

Lecture: There is no attendance necessary for lectures for this course since all lectures will be pre-recorded and available in CANVAS.
Exams: Students must take all INDIVIDUAL exams in-person on campus in the Florida Gym

PERSONAL CONDUCT POLICY

Students are expected to exhibit behaviors that reflect highly upon themselves and our University:

- Read and refer to the syllabus
- Show respect for the course instructor and graduate TAs through politeness and use of proper titles
- Use professional, courteous standards for all emails and discussions:

    - Descriptive subject line
    - Address the reader using proper title and name
    - Body of the email should be concise but have sufficient detail
    - Give a respectful salutation (e.g., thank you, sincerely, respectfully)
    - No textspeak (e.g., OMG, WTH, IMO)
- Adherence to the UF Student Honor Code: https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/
    - Report any condition that facilitates academic misconduct to appropriate personnel
    - Any use, access, or handling of technology during an individual assessment will result in a zero on the assessment – at minimum
    - Honor code violations of any kind will not be tolerated, and all allegations will be reported to the Dean of Students Office

EXAM MAKE-UP POLICY

Make-up exams will be given at the discretion of the instructor. Unexcused missed exams will result in a zero on the exam (this includes contacting the instructor **after** the exam if you are ill). If you have a serious emergency or life event, please contact the Dean of Students Office (www.dso.ufl.edu) and they will contact your instructor so that you do not have to provide documentation of the emergency/death in order to get a make-up exam.

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. Any variation of this statement is acceptable. More details are always helpful to DRC-registered students.

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

Please feel free to list as many or as few resources here as you would like. However, the **counseling and wellness center** and the **UFPD** contacts are required.

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

The following table outlines the percentage-accruing components of the course.

Evaluation Components	% of Total Grade
Collaborative Exams (6)	25%
Individual Exams (3)	50%
Online Labs (6)	20%
Your Story Assignment	5%
Extra Credit	Possible 2%

Collaborative Exams – You will have six collaborative exams during the semester. These exams will be administered online in CANVAS. You are permitted use of any course materials (text, notes, etc.) and you are encouraged to collaborate with peers in class. You may not collaborate with peers who are NOT registered for this class in THIS semester. Each exam will be between 10-20 questions and you will have 60 minutes to complete them. Exams will be available from 6am to 11:59pm, so you can take the exam at a time best suited for you and your collaborators. Questions will be in the following format: multiple choice, true-false, matching, and multiple correct answers (select all that apply). Exam content will include both lab and lecture material.

Individual Exams – You will take three exams that will be administered on the second lab period of every other week (either Wednesday or Thursday depending on your lab section). These exams will be administered in the Florida Gym in Lab 107D and 107E. No resources or collaboration will be permitted on these exams. It is a UF honor code violation to take the exam and share that information with

students who have not yet taken the exam. Questions will be in the following format: multiple choice, true false, fill-in-the-blank, short answer. Exam content will include both lab and lecture material.

Online Labs – Your labs will be online lab modules. These allow you to perform highly technical, invasive, and/or time-consuming physiological experiments in a short period of time. These online lab modules will be access through MasteringA&P in CANVAS should be completed by Saturday at 11:59pm of each week (see lab schedules below for specific dates/deadlines). You will be able to open and close the labs as many times as you wish until the due date. For each online lab, you will answer a number of essay questions related to the experiments performed—so it's recommended you take good notes and pay attention to what you are doing during the lab modules. Your Lab TA will grade only two of the questions (at random) to assign a grade for your completion (5 pts per question). You will receive a zero on the lab if you have not answered all of the essay questions. Plagiarism will not be tolerated and will result in an honor code violation. Students who consistently fail to meet Satisfactory or Excellent scores on online labs (see rubric below) will be invited to a meeting to discuss academic roadblocks/progress in the course.

Unsatisfactory (U) Does Not Meet Minimum Expectations (0-5 pts)	**Satisfactory (S)** Meets Minimum Expectations (6-7 pts)	**Excellent (E)** Exceeds Expectations (8-10 pts)
• Incomplete sentences • Excessive grammatical errors, including spelling (≥3) • Answer demonstrates lack of understanding	• Complete sentences • Few grammatical errors, including spelling (<3) • Answer demonstrates basic understanding • Mostly correct use of scientific/medical terminology	• Complete sentences • Little to no grammatical errors, including spelling (≤1) • Answer demonstrates a more comprehensive understanding • Correct use of scientific/medical terminology

Extra Credit: Will be assigned near the end of the semester and will be worth a total of 2% on the final grade.

Weekly Course Schedule

CRITICAL DATES & UF OBSERVED HOLIDAYS

- No Class: Memorial Day May 30th (Monday)

WEEKLY SCHEDULE

Week	Dates	Assigned Module & Schedule Notes	Assessments Due
1	May 9 – 13	Intro to Physiology (1:1-12) Cell Structure & Function (2: 18-50) Cell Metabolism (3: 56-87)	Lab 1: Introduction Lab 2: Transport Mechanisms (5/14)
2	May 16 – 20	*Week 1 Review with Dr. Gordon 8a* *Cell Membrane Transport (4: 93-120)* *Chemical Messengers (5: 124-145)* *Endocrine System (6: 149-163)*	Collaborative Exam 1 (5/16) Exam 1 (5/18 or 5/19) Lab 3: Endocrine (5/21)
3	May 23 – 27	*Week 2 Review with Florian Roth 8a* *Neural Signaling (7:166-193)* *Neural Integration (8:196-209)*	Collaborative Exam 2 (5/23) Lab 4: Nervous (5/28) Lab 5: Skeletal Muscle Physiology (5/28)
4	May 30 – June 3	*Week 3 Review with Michael Rua on Zoom* Muscle Physiology (12: 322-350) Cardiac Function (13: 359-370, 373-390)	No In-Person Review because of Memorial Day Collaborative Exam 3 (5/31) Exam 2 (6/1 or 6/2) Lab 6: Cardiovascular (6/4)
5	June 6 – 10	*Week 4 Review with Sushain Kaul* *Vessels & Pressure (14: 394-426)* *Pulmonary Ventilation (16: 448-469)* *Gas Exchange (17: 473-499)*	Collaborative Exam 4 (6/6) Lab 7: Cardiovascular Part 2 (6/11) Lab 8: Gas Exchange/Renal (6/11)
6	June 13 – 17	*Week 5 Review with Joongsuk Kim* *Renal Function (18: 503-527)* *Fluid/Electrolyte Balance (19: 531-548)*	Collaborative Exam 5 (6/13) Collaborative Exam 6 (6/17) Exam 3 (6/15 or 6/16) Lab 9: Pulmonary (6/18) Lab 10: Acid/Base Balance (6/18)

SUCCESS AND STUDY TIPS

- Do not fall behind. This course moves at a FAST pace…and you can easily get overwhelmed if you procrastinate. Avoid studying at the last minute.
- Snow-ball your lecture notes. Begin studying lecture material immediately after the first lecture. Then, after the second lecture, begin your studies with day one lecture material. Continue this all the way up to each exam.
- If there is something in the textbook that was NOT in lectures, you are not expected to know it. There is a lot in the text that we don't have time to cover.
- Re-write questions. Taking complex questions and breaking them down to identify exactly what the question is REALLY asking for is very helpful. It is also very helpful to look at incorrect answer choices and

identify what makes those choices wrong. Ask yourself, "How could I make that statement correct?" You can practice this with the critical thinking questions at the end of each chapter.

- Stay organized. Keep track of all important due dates and move through each day in a uniform manner so that you are always aware of what you have done and what is left to be completed. Make a list every Monday morning of what you need to do that week and stick to the plan.
- Check CANVAS announcements/emails **daily**! Dr. G will post important and helpful information as announcements.
- Have a positive attitude! THIS STUFF IS COOL!