

APPLIED HUMAN PHYSIOLOGY W/ LAB

APK 2105C ~ 4 CREDITS ~ SUMMER A 2021

INSTRUCTOR: **Ben Gordon, Ph.D., CSCS, C-EP**
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 Office Phone: 352-294-1755
 Email: bgordon1@ufl.edu
Preferred Method of Contact: email or canvas message

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

MEETING TIME/LOCATION: Online (Live Lectures on Monday will be at the scheduled time of 8a)

ALL parts of the course are conducted online!

SECTION #	CLASS #	LAB TIME	LOCATION	TA
03C4	10302	MW 2-3 (9:30am-12:15pm)	ONLINE	John Roman (johntroman@ufl.edu)
03DD	10303	T,Th 2-3 (9:30am-12:15pm)	ONLINE	Eduardo Rijos (eduardoerijos@ufl.edu)
0848	10304	T, Th 4-5 (12:30-3:15pm)	ONLINE	John Roman
0849	10305	MW 4-5 (12:30-3:15pm)	ONLINE	Brady Holmer (holmerbl@ufl.edu)
0850	10306	MW 4-5 (12:30-3:15pm)	ONLINE	Brady Holmer
0851	10307	MW 2-3 (9:30am-12:15pm)	ONLINE	Mustafa Ozdemir (ozdemirm@ufl.edu)
0852	10308	T,Th 2-3 (9:30am-12:15pm)	ONLINE	Eduardo Rijos
0853	10309	T,Th 4-5 (12:30-3:15pm)	ONLINE	Brady Holmer
0854	10310	M, W 6-7 (3:30-6:15pm)	ONLINE	Mustafa Ozdemir

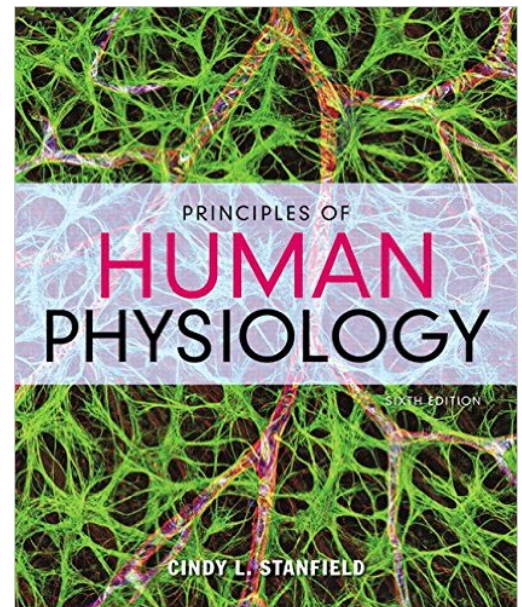
COURSE DESCRIPTION: This physiology course will introduce the functions of the human body at the cellular, tissue, organ, systemic, and organismal levels with heavy emphasis on mechanisms of action.

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: Lectures: 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 Friday (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:** Students will meet once a week during their lab times with a graduate Teaching Assistant (TA) who will discuss the PhysioEx Labs and address any questions that may arise. 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. **Exams:** Every Friday, 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 Thursday, students will take individual exams.

COURSE LEARNING OBJECTIVES: Biological science courses provide instruction in the basic concepts, theories and terms of the scientific method in the context of the life sciences. Courses focus on major scientific developments and their impacts on society, science and the environment, and the relevant processes that govern biological systems. Students will formulate empirically-testable hypotheses derived from the study of living things, apply logical reasoning skills through scientific criticism and argument, and apply techniques of discovery and critical thinking to evaluate outcomes of experiments. 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.	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Collaborative exams • Individual exams • Lab quizzes
Communication: Communicate knowledge, ideas, and reasoning clearly and effectively in written or oral forms appropriate to the discipline.	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Predict how perturbations (e.g., disease, experimental manipulations) will alter physiological function and identify the mechanisms of action involved • Generate and interpret various 	<ul style="list-style-type: none"> • Collaborative exams • Individual exams •

solutions to problems.	graphical representations of physiological data	
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COURSE AND 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.

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). You are absolutely not permitted a make-up exam for personal travel/vacations, so please make your travel arrangements accordingly. 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. Requirements for class attendance and make-up exams, assignments, 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>.

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 or exams. Accommodations are not retroactive, therefore, students should contact the DSO as soon as possible in the term for which they are seeking accommodations.

Students registered with the DRC: Because the exams in this course are online, once you submit your DRC letter to the instructor, they can facilitate your accommodations accordingly—no DRC facilities needed. To make this more manageable, please provide your letter to me in the first two days of class.

COURSE EVALUATIONS: Students are expected to provide feedback on the quality of instruction in this course. These evaluations are conducted online directly through CANVAS. Students will receive electronic notifications when they log into CANVAS letting them know when evaluations are available to complete.

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, 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 option 2) or e-mail to Learning-support@ufl.edu. <https://lss.at.ufl.edu/help.shtml>
- Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. <http://teachingcenter.ufl.edu/>
- 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:

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

Evaluation Components	Points Possible	% of Total Grade
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Collaborative Exams (6)	10 pts x 6 exams = 60 pts	30%
Individual Exams (3)	20 pts x 3 pop exams = 60 pts	30%
Online Labs (6)	10 pts x 10 labs = 100 pts	35%
Your Story Assignment	100pts	5%
Extra Credit	Up to 3% of final grade	

Collaborative Exams – You will have six collaborative exams during this 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 Thursdays from 12p to 4p. 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. 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)
<ul style="list-style-type: none"> • Incomplete sentences • Excessive grammatical 	<ul style="list-style-type: none"> • Complete sentences • Few grammatical errors, 	<ul style="list-style-type: none"> • Complete sentences • Little to no grammatical

errors, including spelling (≥ 3) <ul style="list-style-type: none"> • Answer demonstrates lack of understanding 	including spelling (< 3) <ul style="list-style-type: none"> • Answer demonstrates <u>basic</u> understanding • Mostly correct use of scientific/medical terminology 	errors, including spelling (≤ 1) <ul style="list-style-type: none"> • Answer demonstrates a more <u>comprehensive</u> understanding • Correct use of scientific/medical terminology
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Extra Credit: Will be assigned throughout the semester and will be worth at total of 3%

GRADING SCALE: Any discrepancies with points displayed in the gradebook should be pointed out to the instructor before the last day of class. There is no curve for this course and final grades will not be rounded up. See the UF undergraduate catalog web page for information regarding current UF grading policies:

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

Minus grades are not assigned for this course. A minimum grade of C is required for all General Education courses, such as this one.

Letter Grade	Percent of Total Points Associated with Each Letter Grade	GPA Impact of Each Letter Grade
A	90.00-100%	4.0
B+	87.00-89.99%	3.33
B	80.00-86.99%	3.0
C+	77.00-79.99%	2.33
C	70.00-76.99%	2.0
D+	67.00-69.99%	1.33
D	60.00-66.99%	1.0
E	0-59.99%	0

WEEKLY COURSE SCHEDULE:

Any changes to this schedule will be posted in CANVAS as an announcement.

	Day - Date	Lecture Topic (Textbook Chapter: Pages)
Week 1	M- May 10	8:00a Live Introduction to the class
	T- May 11	Intro to Physiology (1:1-12)
	W - May 12	Cell Structure & Function (2: 18-50)
	R - May 13	Cell Metabolism (3: 56-87)
	F - May 14	
Week 2	M - May 17	8:00a Live Recitation on Intro to Physiology Open Source / Collaborative Exam 1
	T - May 18	Cell Membrane Transport (4: 93-120)
	W - May 19	Chemical Messengers (5: 124-145)
	R - May 20	Endocrine System (6: 149-163)
	F - May 21	Individual Exam 1 open 12-4p on Thursday
Week 3	M - May 24	8:00a Live Recitation on Cellular Signaling Open Source / Collaborative Exam 2
	T - May 25	Neural Signaling (7:166-193) Neural Integration (8:196-209)
	W - May 26	
	R - May 27	
	F - May 28	
Week 4	M - May 31	Holiday
	T - Jun 01	8:00a Live Recitation on Neural Function Open Source / Collaborative Exam 3
	W - Jun 02	Muscle Physiology (12: 322-350)
	R - Jun 03	Cardiac Function (13: 359-370, 373-390)
	F - Jun 04	Individual Exam 2 open 12-4p on Thursday
Week 5	M - Jun 07	8:00a Live Recitation on Muscle Physiology Open Source / Collaborative Exam 4

	T - Jun 08	Vessels & Pressure (14: 394-426) Pulmonary Ventilation (16: 448-469) Gas Exchange (17: 473-499)
	W - Jun 09	
	R - Jun 10	
	F - Jun 11	
Week 6	M - Jun 14	8:00a Live Recitation on Peripheral cardiovascular and pulmonary function Open Source / Collaborative Exam 5
	T - Jun 15	Renal Function (18: 503-527)
	W - Jun 16	Fluid/Electrolyte Balance (19: 531-548) Individual Exam 3 open 12-4p on Thursday
	R - Jun 17	8:00a Recitation on Electrolyte and Fluid balance
	F - Jun 18	Open Source / Collaborative Exam 6 on Friday

The following are **lab schedules**. You will NOT physically meet for Labs. Your TA will have office hours during your lab meeting time on days you have lab each week.

	Day - Date	Labs that meet 2X/week: M/W or T/R
Week 1	M- May 10	Lab 1: Introduction and graphs
	T- May 11	
	W - May 12	Lab 2: Transport mechanisms
	R - May 13	
	F - May 14	No labs on Fridays
Week 2	M - May 17	NO LAB
	T - May 18	
	W - May 19	Lab 3: Endocrine
	R - May 20	
	F - May 21	No Labs on Fridays
Week 3	M - May 24	Lab 4: Nervous
	T - May 25	
	W - May 26	Lab 5: Skeletal Muscle Physiology
	R - May 27	
	F - May 28	No Labs on Fridays
Week 4	M - May 31	HOLIDAY - NO LAB
	T - Jun 01	
	W - Jun 02	Lab 6: Cardiovascular
	R - Jun 03	
	F - Jun 04	No Labs on Fridays

Week 5	M - Jun 7	Lab 7: Cardiovascular Part 2
	T - Jun 8	
	W - Jun 9	Lab 8: Gas Exchange / Renal
	R - Jun 10	
	F - Jun 11	No Labs on Fridays
Week 6	M - Jun 14	Lab 9: Pulmonary
	T - Jun 15	
	W - Jun 16	Lab 10: Acid/Base Balance
	R - Jun 17	
	F - Jun 18	No Labs on Fridays
ALL LABS ARE DUE BY 11:59p OF THE SATURDAY AFTER THEY'RE ASSIGNED		

STUDY TIPS FOR CLASS:

- Read from the text BEFORE watching the lectures. Do not take notes, underline, highlight, or attempt to memorize anything...JUST READ and enjoy!
- 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.**
- Google diseases or drug mechanisms of action. For example, if we are studying neurophysiology, Google "brain diseases". Click on any link and just read a paragraph to see if you can understand based on what you now know about nervous tissue structure and function. If you don't understand it, that's okay...did you recognize any words?...did you at least have a *clue* what was going on? This makes for GREAT discussion during group study.
- Use the learning objectives for each chapter as a guide to important, testable concepts/content. All assessments are derived from the learning objectives.

SUCCESS TIPS FOR CLASS:

- 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.
- 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!** Your course instructor will post important and helpful information as announcements.
- Have a positive attitude! THIS STUFF IS COOL!