University of Florida
Department of Physical Therapy
College of Public Health and Health Professions
Syllabus

PHT6153: *Physiology for PT*

3 credit hours
Fall Semester, 2025

Prerequisites

Participation in this course is limited to DPT learners formally admitted to the Doctor of Physical Therapy program at the University of Florida and meeting all admissions course requirements

Class time and location

Monday: 9:00-9:50 am, Communicore, C1-17
Tuesday: 2:30-3:20 pm, Communicore, C1-17 (*see outline below for exceptions)
Friday 10:40-11:30 am, Online using Zoom

Primary Instructors

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Student TA

Madelyn Corliss, SPT	E-mail: madelyncorliss@ufl.edu

Course Purpose

The purpose of this course is for first year physical therapy students to learn the fundamentals of human physiology and the acute and chronic responses to exercise. This will provide a foundation for subsequent courses in the physical therapy curriculum (e.g., Pathophysiology and Screening for Referral). Accordingly, the intent is for students to gain a basic understanding of physiology of different systems and how the body

attempts to maintain “homeostasis” in light of disturbances caused by exercise. Lectures will provide an overview of the various physiological systems (e.g. respiratory, renal, etc.). In general, the lectures will follow the textbook chapters both in content and order of presentation. Please see the next page of the syllabus for a detailed list of lecture topics.

Overall course objectives

Upon successful completion of this course, students should be able to:

1. *Understand the general principles of physiology (CAPTE 7, 7A)*

2. *Understand how homeostasis is maintained, and how physiological responses are altered during exercise to maintain homeostasis (CAPTE 7A).*

3. *Describe the levels of the structural components and organization of the human body (CAPTE 7A), including:*
    a. *cell types and functions of the organelles*
    b. *tissues, organs, and organ systems*
    c. *genetic code*

4. *Understand how genes regulate protein synthesis and genetic variability (CAPTE 7A).*

5. *Understand how physiological systems are integrated at rest and during exercise. Understand how molecules move in the body and concepts related to metabolic pathways, receptors, and signaling (CAPTE 7A).*

6. *Describe the control and function of each of the following physiological systems (CAPTE 7A):*
    a. *Nervous system*
        i. *Voluntary/Autonomic*
        ii. *Sensory nervous system*
    b. *Muscle/neuromuscular junction*
    c. *Bone*
    d. *Endocrine*
    e. *Cardiovascular*
    f. *Respiratory*
    g. *Renal*
    h. *Digestive*
    i. *Immune/lymphatic*
        i. *Innate*
        ii. *Adaptive*
    j. *Integumentary system*

7. *Describe and understand the responses of the major physiological systems to exercise (CAPTE 7A).*

8. *Communicate effectively with patients and colleagues on appropriate exercise prescription. Learn appropriate physiology terminology to communicate with colleagues and patients and to recognize the normal range of key physiological values (CAPTE 7).*

9. *Apply the principles of physiology to the understanding of pathophysiology. Demonstrate effective written communication of physiology concepts and how a physiology principle is altered in a clinical situation (CAPTE 7).*

10. *Awareness of how health care disparities, social determinants of health (SDoH), and environmental factors can lead to altered homeostasis and physiological responses (CAPTE 6D, 7C, 7C3).*

Course Materials and Technology

1) Visible Body Courseware®, student subscription (2025). https://courseware.visiblebody.com/
For subscribing, see guidance provided by instructors and in canvas.
Course link:
https://courseware.visiblebody.com/courses/135883/join?join_course_token=qNyJVSP8S34sR5oGhkdhiNu7&site_license=false

2) Vander's Human Physiology: The Mechanisms of Body Function. 16th Edition. Publisher: McGraw Hill (recommended, not required)

3) Powers, S.K., Howley E.T., and Quindry J. *Exercise Physiology: Theory and Application to fitness and Performance, 12th edition* (ISBN 13 978-1266188190; ISBN10: 1264529813), McGraw Hill (recommended, not required)

For technical support for this class, please contact the UF Help Desk at:

- helpdesk@ufl.edu
- (352) 392-HELP - select option 2
- https://helpdesk.ufl.edu/

Topical Outline

A detailed outline of the course is provided on the next page.

Weekday	Date	Lecture	Exam	Recommended Reading	Potenital Instructor	In-person/Zoom	Comments
Friday	22-Aug	Introduction	1	Chapter 1	Forbes	Zoom	
Monday	25-Aug	General Principles and Homeostasis	1	Chapter 1	Forbes	In-person	
Tuesday	26-Aug	Chemical composition of the body	1	Chapter 2	S Judge	Zoom	
Friday	29-Aug	Cell Structure & Organelles	1	Chapter 3, A	S Judge	Zoom	
Monday	1-Sep	Labor Day - No Class					
Tuesday	2-Sep	Genetic Code and Protein Synthesis	1	Chapter 3B,C	S Judge	In-person	
Friday	5-Sep	Metabolism/Bioenergetics and Exercise Metabolism	1	Chapter 3C,D,E	A Judge	Zoom	
Monday	8-Sep	Metabolism/Bioenergetics and Exercise Metabolism	1	Chapter 3C,D,E	A Judge	In-person	**Quiz 1 Due**
Tuesday	9-Sep	Metabolism/Bioenergetics and Exercise Metabolism	1	Chapter 3C,D,E	A Judge	In-person	
Friday	12-Sep	Skeletal Muscle	1	Chapter 9	A Judge	Zoom	
Monday	15-Sep	Skeletal Muscle Adaptations to Exercise	1	Chapter 9	A Judge	In-person	
Tuesday	16-Sep	Cardiac muscle, Smooth muscle	1	Chapter 9	A Judge	In-person	
Friday	19-Sep	Questions from Part I	1	NA	Forbes/S. Judge/A. Judge	Zoom	
Monday	22-Sep	mid-term exam				In-person	**Exam 1**
Tuesday	23-Sep	Movement of Molecules	2	Chapter 4	Forbes	In-person	
Friday	26-Sep	Cell Signaling and neurons	2	Chapter 5, 6	Forbes	Zoom	
Monday	29-Sep	Neurons/Autonomic Nervous system	2	Chapter 6	Forbes	In-person	
Tuesday	30-Sep	Sensory	2	Chapter 7	Forbes	Zoom	
Friday	3-Oct	**Special Topics: Neuromuscular Junction and Aging*	2	PPT	Hepple	Zoom	
Monday	6-Oct	**Special Topic: Exercise and Aging*	3	PPT	Hepple	In-person	
Tuesday	7-Oct	Endocrine	2	Chapter 11	Forbes	In-person	
Friday	10-Oct	Bone	2	PPT/Chapter11	Willcocks	Zoom	
Monday	13-Oct	Cardiovascular	2	Chapter 12	Forbes	In-person	**Quiz 2 Due**
Tuesday	14-Oct	Cardiovascular	2	Chapter 12	Forbes	Zoom	
Friday	17-Oct	Homecoming - no class					
Monday	20-Oct	Circulatory/CV Responses to Exercise	2	PPT	Hepple	In-person	
Tuesday	21-Oct	licrovascular-Mitochondrial Unit with Exercise Trainin	2	PPT	Hepple	In-person	
Friday	24-Oct	Questions from Part II	2	NA	Forbes	Zoom	
Monday	27-Oct	mid-term exam				In-person	**Exam 2**
Tuesday	28-Oct	Respiratory	3	Chapter 13	Forbes	In-person	
Friday	31-Oct	**Special Topic: Respiration in DMD*	3	PPT	Barnard	Zoom	
Monday	3-Nov	Respiratory	3	Chapter 13	Forbes	In-person	
Tuesday	4-Nov	**Special Topic: Respiration during Exercise*	3	PPT	Fuller	In-person	
Friday	7-Nov	Renal	3	Chapter 14	Willcocks	Zoom	
Monday	10-Nov	Renal	3	Chapter 14	Willcocks	In-person	
Tuesday	11-Nov	Veterans Day - No class					
Friday	14-Nov	Nutrition	3	PPT	Willcocks	Zoom	
Monday	17-Nov	Integrative physiology	3	PPT	Hepple	In-person	**Quiz 3 Due**
Tuesday	18-Nov	Exercise Homeostasis	3	PPT	Hepple	In-person	
Friday	21-Nov	Immune	3	Chapter 18	Forbes	Zoom	**Assignment Due**
Monday	24-Nov	Thanksgiving Holiday - No Class					
Tuesday	25-Nov	Thanksgiving Holiday - No Class					
Friday	28-Nov	Thanksgiving Holiday - No Class					
Monday	1-Dec	**Special topic: Integumentary System*	3	Chapter18	Smith	In-person	
Tuesday	2-Dec	Questions from Part III	3	NA	Forbes/Hepple/Willcocks	Zoom	
Final Exam: Dec. 10						In-person	**Exam 3**

Academic Policies & Resources

In addition to the UF Department of Physical Therapy DPT Handbook, and UF DPT Clinical Education Handbook, the UF PHHP Academic Policies & Resources provide important and relevant information to support your UF success, including*: Matters of Attendance, Disability Resources, Grading, Course Evaluations, University Honesty Policy, UF Code of Conduct Information, In class recording, Computing Services, Library Support, Career Connections, Academic Resources, Writing Studio, Ombuds Information, Enrollment Management/Registrar, Financial Aid, Admissions, UF Student Success Initiative, Campus and Wellness Resources-UF Whole Gator.*

Office hours

Please email or phone the instructor to set up an appointment.

Website

We will use the UF **Canvas** E-Learning System accessed at https://lss.at.ufl.edu/ .

Laptop & Smartphone policy

Laptops, tablets, etc. are permitted for taking notes. *However, texting, emailing, etc. during class is not permitted.*

Exams and scoring

This course will be graded according to the departmental guidelines located in the student handbook. We will follow the standard grading scale listed below. Exams will consist primarily of multiple choice questions but may also contain short written answers, fill-in-the-blank, and/or diagrams.

Summary of grading

Exam 1:	25%
Exam 2:	25%
Exam 3:	25%
Quizzes:	15%
Assignment:	10%

Exams (75% of final grade; three exams each worth 25%):

Exams will consist primarily of multiple choice questions but may also contain short written answers, fill-in-the-blank, and/or diagrams. Exams must be done independently without any assistance from others and without any resources (textbooks, websites, etc.).

Exams will be written in a classroom using a laptop with access to Canvas online. For the exams, ***Canvas LockDown Browser*** will be utilized.

Quizzes (15% of final grade, three quizzes each worth 5%)

Three quizzes will be taken using VisibleBody Courseware and will be worth a total of 15%. These will be "open book" quizzes that you can use your notes, textbook, and other resources to help answer the questions. Questions will be multiple choice, short written answers, fill-in-the-blank, and/or diagrams. These quizzes must be done independently.

Quizzes are due on September 8, October 13, and November 17 at 9:00 am (start of class)

Estimate time to complete: 30 minutes/quiz

Assignment – 10% of final grade

Choose one of the "General Principles of Physiology" and apply it to an individual/patient you have been in contact with this fall semester through your REACH group, Putting Families First, Equal access clinic, etc. The person may or may not have a diagnosed medical condition. The **objective** of this assignment is to

demonstrate an understanding of the "General Principles of Physiology" covered in class and the textbook, and to apply one of these principles to a clinical situation. The written assignment is to be completed independently by each student and should be a **maximum of one page, double spaced** (not including the list of references). Figures/diagrams can also be included as an appendix.

The grade will be based on the following:

Criteria	Excellent (2 pts)	Satisfactory (1 pt)	Needs Improvement (0 pts)	Points
1. Principle Identification	Clearly identifies and defines a general principle of physiology	Principle is somewhat clear but lacks full definition	Principle is unclear, vague, or inaccurate	/2
2. Application to Patient	Strong, clear connection to a specific patient or individual, considers their SDoH and environmental influences	Connection made, but lacks detail or depth	Weak or no connection to a real person	/2
3. Scientific Accuracy	All content is scientifically accurate and appropriate	Minor inaccuracies, but concept is mostly correct	Major errors or misunderstandings	/2
4. Insight & Critical Thinking	Shows thoughtful analysis and integration of ideas	Some insight shown, but superficial	No critical thinking or insight evident	/2
5. Clarity & Organization	Well-organized, clearly written, free of distracting errors	Understandable, but has some disorganization or grammar issues	Hard to follow, poorly written or disorganized	/2

The assignment is due **Friday, Nov. 21 before at 5:00 pm**. Each day it is late, a 1 mark deduction will be incurred.

Estimate time to complete: 3 hours

Scale

93-100% = A	4.0 grade point
90-92% = A-	3.67 grade point
87-89% = B+	3.33 grade point
83-86% = B	3.0 grade point
80-82% = B-	2.67 grade point
70-79% = C	2.0 grade point
60-69% = D	1.0 grade point
< 60% = E	0 grade point

Learning objectives

Most chapters will be accompanied by specific learning objectives. These objectives are provided to help you focus your studying. While the exams may cover material not specifically addressed in the learning objectives, the majority of the exam questions will be covered in these objectives.

How to study for this course?

1. Read the assigned readings and posted links/material, preferably prior to class.

2. Review the learning objectives for each chapter. Also, answer the relevant review questions and exam questions at the end of the chapter.
3. To best distill knowledge from the lectures, you should make drawings and/or outlines. These drawings/outlines will help you organize your notes and integrate knowledge.

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/.

The schedule, policies, and assignments described in this syllabus are subject to change in the event of extenuating circumstances or by mutual agreement between the instructor and the students.