

**University of Florida**  
**College of Public Health & Health Professions Syllabus**  
**OTH4412 & OTH4412L Musculoskeletal Anatomy (5 credit hours)**  
**Spring 2026**

Delivery Format: On-Campus and Online

**Thursdays (All sections):** HPNP G105

**Mondays (All sections):** 1/26, 3/2, 4/13 and 4/20 in HPNP G111  
**Cadaver lab:** CG007

Instructor Name: Dr. Shakeel Ahmed PT, PhD

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Office Hours: Tuesdays 1:30 – 3:30 PM (by appointment)

Lab Instructors:

Dr. Samantha Paede PT, DPT

Email address: [spae0001@shands.ufl.edu](mailto:spae0001@shands.ufl.edu)

**Prerequisites:** HSC 3502, HSC 4558, OTH 3416, and Health Science major or minor. Coreq: OTH 4412L.

## **PURPOSE AND OUTCOME**

### **Course Overview:**

The purpose of this course is to provide the student with lecture and laboratory studies of human musculoskeletal anatomy. The course is designed for all health science students. The emphasis of this course is on a functional understanding of bones, muscles, and their innervation and action, as well as on common conditions and injuries to bones, muscles, tendons, and nerves.

### **Relation to Program Outcomes:**

This course is required for post-Baccalaureate students as part of a series of prerequisite basic science courses. Additionally, this is an elective course for senior students in the BHS program.

### **Course Objectives and/or Goals:**

1. Define and apply anatomical terminology, position, and planes of movement.
2. Identify and name the bones of the human body, locate and identify their landmarks, and describe the types, structure and function of bones.
3. Identify the types of joints in the human body and their general functional characteristics.
4. Identify and describe the anatomy of specific joints and selected ligaments in the human body.
5. Identify and name the muscles of the upper extremity, lower extremity, neck, trunk, and face.
6. Identify the bony origins and insertions of each of the muscles described in #5.
7. Explain and demonstrate the action of each muscle based on knowledge of its origin and insertion, the joints it crosses, and the direction of its fibers.
8. Identify the antagonistic and synergistic muscle actions in the upper and lower extremities.
9. Explain and describe the functional changes in movement following lesions of major nerves or plexuses.
10. Identify the innervation and corresponding spinal segment of muscles.
11. Identify and name the nerves and spinal segments which supply cutaneous sensation throughout the body.
12. Identify and name the general arteries and veins that supply the upper extremity, lower extremity, neck, trunk, and head regions.

## Instructional Methods

The students will participate in lecture and laboratory study of specimens & models. Some material will be delivered using blended learning.

## Blended Learning

*What is blended learning, and why is it important?*

A Blended Learning class uses a mixture of technology and face-to-face instruction to help you maximize your learning. Knowledge content that, as the instructor, I would have traditionally presented during a live class lecture is instead provided online before the live class takes place. This lets me focus my face-to-face teaching on course activities designed to help you strengthen higher-order thinking skills such as critical thinking, problem solving, and collaboration. Competency in these skills is vital for today's health professional.

*What is expected of you?*

You are expected to actively engage in the course throughout the semester. You must come to class prepared by completing all out-of-class assignments. This preparation gives you the knowledge or practice needed to engage in higher levels of learning during the live class sessions. If you are not prepared for the face-to-face sessions, you may struggle to keep pace with the activities occurring in the live sessions, and it is unlikely that you will reach the higher learning goals of the course. Similarly, you are expected to actively participate in the live class. Your participation fosters a rich course experience for you and your peers that facilitates overall mastery of the course objectives.

## Course Materials and Technology

### A. Required:

1. *Visible Body Courseware is a comprehensive online learning platform packed with the most advanced, immersive 3D learning content on the human body, and it is **REQUIRED** for this course. Students will access this material through a web link their instructor sends them. The first two weeks of access are free. After that time, you may purchase activation codes from The UF Bookstore or you may also purchase your subscription online directly from your Courseware student account. This product requires an internet connection and is compatible with many computers and mobile devices.*
2. Required reading materials will be posted on E-learning for every class. E-Learning Website: <http://elearning.ufl.edu/>

### B. Recommended (optional):

1. Moses, KP, Banks JC, Nava PB, Petersen, D: Atlas of Clinical Gross Anatomy (Latest Edition)

### C. Browser requirements for exams:

Written exams will be proctored via the lockdown browser.

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

- <http://helpdesk.ufl.edu/>
- (352) 392-HELP (4357) - select option 2
- <https://lss.at.ufl.edu/help.shtml>

## ACADEMIC REQUIREMENTS AND GRADING

### Assignments

- Quizzes / in-class assignments: there are 11 of these throughout the semester.
- Exams: there are 3 written exams and 3 practical/lab exams.

## Grading

Exams	% Grade
Written exam 1	14
Written exam 2	14
Written exam 3	14
Practical/lab exam 1	14
Practical/lab exam 2	11
Practical/lab exam 3	11
Assignments and Quizzes (11)	22
<b>Total</b>	<b>100%</b>

Points earned	93%- 100%	90%- 92.99%	87%- 89.99	83%- 86.99%	80%- 82.99%	77%- 79.99%	70%- 76.99%	67%- 69.99%	63%- 66.99%	60%- 62.99%	<60%
Letter grade	A	A-	B+	B	B-	C+	C	D+	D	D-	E

Letter grade	A	A-	B+	B	B-	C+	C	D+	D	D-	E	WF, I, NG, S- U
	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.33	1.0	0.67	0.0	0.0

**According to college policy, a grade of "C" is necessary to pass the course.**

**Final points earned will not be rounded up.** For greater detail on the meaning of letter grades and university policies related to them, see the Registrar's Grade Policy regulations at:  
<http://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

### Exam Policy

Written exams will be administered in class via the lockdown browser. Lab exam 1 and 2 will be held in the cadaver lab. Lab exam 3 will be administered in class via the lockdown browser.

### Policy Related to Make up Exams or Other Work

Makeup exams will not be given without prior arrangements with the Course Instructor. "Prior" means at least one day in advance. Failure to do this will result in a zero grade for that test or assignment.

Emergencies have to be documented (such as a medical exemption). Undocumented absence from an exam or an assignment will result in a score of "0" on that assignment. Makeup exams that are given due to authorized absence may be oral exams.

### Policy Related to Required Class Attendance

- Students are expected to attend lecture and lab. A sign-up sheet will be passed around on randomly selected dates. Missing lecture will result in subtracting 2 professional behavior points per lecture.
- Missing a lab will result in subtracting 3 professional behavior points per missed lab.
- Missing class or lab without **prior** arrangements will result in point subtraction as mentioned above. Personal issues regarding attendance or fulfillment of course requirements will be handled on an individual basis.
- All faculty members are bound by the UF policy for excused absences.
- For information regarding the UF Attendance Policy see the Registrar website for additional details:  
<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

## STUDENT EXPECTATIONS, ROLES, AND OPPORTUNITIES FOR INPUT

### Expectations Regarding Course Behavior

**Class behavior:** You are also expected to:

- Be on time for class
- **Stay until class is dismissed**
- Silence your cellular phone
- Be courteous by refraining from chatter and other distracting behaviors
- Do not look at external material during class (newspaper, Facebook, twitter, Instagram etc)

**Patience:** Be patient with the faculty, TAs and peers!

**Preparation:** Be prepared for class!

**Participation:** Stay focused. The more you focus and participate the more you learn. Ask questions! Whether you are in person or online / remote — **ask questions**. You are responsible for your own learning. Attending the synchronous sessions as scheduled and participating in the learning activities will facilitate your ability to succeed in this course.

Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work (<https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>).

For the first observed deviation from expected classroom behavior, you will receive constructive feedback from the I instructor. However, repeated deviations will lead to a deduction of up to one letter grade from your overall class grade. Major/serious deviations from expected behaviors will result in referral to the Dean of Students Office (DSO) and Major or serious deviations may result in loss of points or letter grade as determined by DSO.

### **Remote and Online Synchronous Sessions:**

Class sessions **may be** audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

### **Communication Guidelines**

Please email the instructor directly (email address listed above) rather than using the E- learning. For digital communication expectations see: *Netiquette Guidelines*: <http://teach.ufl.edu/wp-content/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf>

### **Academic Integrity**

Students are expected to act in accordance with the University of Florida policy on academic integrity. As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge:

**We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."**

You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit 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."**

It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For additional information regarding Academic Integrity, please see Student Conduct and Honor Code or the Graduate Student Website for additional details: <https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/> <http://gradschool.ufl.edu/students/introduction.html>. Please remember cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior.

### Online Faculty Course Evaluation Process

"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.a.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.a.ufl.edu/public-results/>."

## SUPPORT SERVICES

### Accommodations for Students with Disabilities

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodations. Students with disabilities should follow this procedure as early as possible in the semester.

### Counseling and Student Health

Students sometimes experience stress from academic expectations and/or personal and interpersonal issues that may interfere with their academic performance. If you find yourself facing issues that have the potential to or are already negatively affecting your coursework, you are encouraged to talk with an instructor and/or seek help through University resources available to you.

- The Counseling and Wellness Center 352-392-1575 offers a variety of support services such as psychological assessment and intervention and assistance for math and test anxiety. Visit their web site for more information: <http://www.counseling.ufl.edu>. On line and in person assistance is available.
- You Matter We Care website: <http://www.umatter.ufl.edu/>. If you are feeling overwhelmed or stressed, you can reach out for help through the You Matter We Care website, which is staffed by Dean of Students and Counseling Center personnel.
- The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the web site at: <https://shcc.ufl.edu/>
- Crisis intervention is always available 24/7 from: Alachua County Crisis Center (352) 264-6789
- <http://www.alachuacounty.us/DEPTS/CSS/CRISISCENTER/Pages/CrisisCenter.aspx>
- Do not wait until you reach a crisis to come in and talk with us. We have helped many students through stressful situations impacting their academic performance. You are not alone so do not be afraid to ask for assistance.

### CLASS SCHEDULE:

<b>Class section and number</b>	13334 (Lab 1)	13335 (Lab 2)
<b>Classroom*</b>	CG 007	CG 007
<b>Monday</b>	11:45 AM – 1:40 PM	1:55 PM – 3:50 PM
<b>Class section and number</b>	16053 (Lecture 1)	16054 (Lecture 2)
<b>Classroom</b>	HPNP G105	HPNP G105
<b>Thursday</b>	11:45 AM – 1:40 PM	1:55 PM – 3:50 PM

**\*Labs on 1/26, 3/2, 4/13 and 4/20 will be held in the HPNP building, classroom G111.**

**Description of course content**

<b>Date</b>	<b>Topic</b>	<b>Quiz/Assignment</b>
<b>Week 1</b>		
Monday 1/12	No class	
Thursday 1/15	Introduction to the course, Overview of the musculoskeletal system	
<b>Week 2</b>		
Monday 1/19	Holiday	
Thursday 1/22	Bones of UE-1	Assignment 1
<b>Week 3</b>		
Monday 1/26 G111	Bones of UE-2	Assignment 2
Thursday 1/29	Muscles of the shoulder	
<b>Week 4</b>		
Monday 2/2	Shoulder cadaver lab	Quiz 1
Thursday 2/5	Muscles of the arm and anterior compartment of the forearm	
<b>Week 5</b>		
Monday 2/9	Arm and anterior forearm cadaver lab	Quiz 2
Thursday 2/12	Posterior compartment of the forearm and muscles of the hand	
<b>Week 6</b>		
Monday 2/16	Muscles of the posterior forearm cadaver lab	Quiz 3
Thursday 2/19	(Optional) Exam Preview: Online	
<b>Week 7</b>		
Monday 2/23	<b>Lab exam 1</b>	
Thursday 2/26	<b>Written Exam 1</b>	
<b>Week 8</b>		
Monday 3/2 G111	Bones of the lower limb	Assignment 3
Thursday 3/5	Muscles of the anterior and medial thigh	
<b>Week 9</b>		
Monday 3/9 (Lab)	Anterior and medial thigh cadaver lab	Quiz 4
Thursday 3/12	Posterior thigh muscles and Bones of the foot	
<b>Week 10</b>		
<b>3/16 and 3/19 Spring Break</b>		
<b>Week 11</b>		
Monday 3/23(Lab)	Posterior Thigh cadaver lab	Quiz 5
Thursday 3/26	Muscles of the leg	
<b>Week 11</b>		
Monday 3/30	Muscles of the leg cadaver lab	Quiz 6
Thursday 4/2	<b>Written exam 2</b>	
<b>Week 12</b>		
Monday 4/6	<b>Lab exam 2</b>	
Thursday 4/9	Rib cage and anterior abdominal wall	

<b>Week 13</b>		
Monday 4/13 G111	The vertebral column	Quiz 7
Thursday 4/16	Osteology of the skull, Muscles of the face	Assignment 4 (take home)
<b>Week 14</b>		
Monday 4/20 G111	TBD	
TBD	Written Exam 3	
TBD	Lab exam 3	

**NOTE: This is a tentative schedule**