

PHT 6187C  
Sections: 5336, 5333

FUNCTIONAL ANATOMY I

FALL SEMESTER 2013

DEPARTMENT OF PHYSICAL THERAPY  
*DOCTORATE of PHYSICAL THERAPY PROGRAM*

COLLEGE OF PUBLIC HEALTH and HEALTH PROFESSIONS

UNIVERSITY OF FLORIDA

GAINESVILLE, FL

INSTRUCTORS:

**Claudia Senesac, PT, PhD, PCS**

**Mark Bishop, PT, PhD**

2013 Claudia Senesac, Gainesville, Florida

PHT 6187C  
FUNCTIONAL ANATOMY I  
FALL SEMESTER 2013  
Credit hours: 5

**INSTRUCTORS:**

CLAUDIA SENESAC, PT, PhD, PCS (T/TH)

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Room PT 1134

Office Hours: T/TH/F-schedule an appointment by email

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Office Hours: weekdays-schedule an appointment by email

**TEACHING ASSISTANTS:** “dissection lab”

*Insert table with TA names/emails*


**COURSE DESCRIPTION:**

The dissection portion of this course involves the study employing lecture and laboratory sessions involving regional cadaveric dissection under the supervision of instructors. Emphasis is on the neuromuscular and musculoskeletal anatomy. Application of the basic anatomical foundations is then applied in lecture and lab with emphasis on biomechanics, joint function, muscle and boney palpation, soft tissue and joint techniques, and introduction to gait.

**Course Prerequisite:** Course participation is limited to entry-level DPT student in their first year of the UF program.

**CLASS SCHEDULE:**

<b><u>Lecture:</u></b> (G-312) (PT 1104) (G-312)	Tuesday	7:30-9:20am
	Wednesday	12:50-1:40pm
	Thursday	7:30-9:20am
<b><u>Labs:</u></b> (CG 007)  (PT 1104/1109) (CG 007)	Tuesday A	10:40-12:35am
	B	12:50-2:45pm
	Wednesday	1:55-5:00pm
	Thursday A	10:40-12:35am
	B	12:50-2:45pm

**General Objectives:**

The student will be able to.....

1. Demonstrate **appropriate affective behaviors** (at the level of 90%) during class lecture, classroom laboratory sessions, dissection lab, student presentations, and classroom and laboratory examinations. These behaviors include but are not limited to respect, consideration, communication, and professionalism. (Please refer to the generic abilities and professional development plan for more details). Students will use feedback to improve affective skills.
2. Define the anatomical and biomechanical terminology and use the terminology appropriately when discussing anatomical content in the classroom and in the laboratory.
3. Identify and locate the points of osteology as listed in the syllabus.
4. Discuss the joints of the body including classification and type, structures (ligaments and other) involved and their functions, and motions occurring at the joint.
5. Discuss the plexi indicating trunks, divisions, and cords from which each nerve emerges and give cord segments for each nerve with an asterisk.
6. Trace the course of each peripheral nerve finding branches to each muscle innervated and the cutaneous branches. Indicate the area of cutaneous innervation for each cutaneous nerve in the body per region.
7. Describe, identify and locate muscle attachments, nerve supply, and primary actions of muscles in the body per region.
8. Describe, identify and locate major arterial and venous structures in the body per region.
9. Describe, identify and locate the organs in the body per region

10. Discuss the relationship of structures in the body to one another:(arteries/veins/nerves/muscle layers/compartments/regions)
11. Explain the sequence of joint motion and muscle activity at complex joints and during complex movements
12. Explain manual therapy
13. Identify boney landmarks and muscles through palpation.
14. Discuss the mechanisms through which manual therapy may influence pain
15. Discuss the historical perspective for the use of manual therapy in physical therapy practice
16. Identify and explain definite and relative contraindications for the use of manual therapy
17. Apply biomechanical principals to use passive movements of joints arthokinematics for joint testing and interventions used by physical therapists
18. Explain and demonstrate muscle- and nerve-based interventions used by physical therapists
19. Evaluate human movement for deviations and compensations and hypothesize possible causes for these deviations
20. Design simple tests of and interventions for musculoskeletal function

**TEXTS REQUIRED:** These textbooks will be used both fall and spring terms:

- Senesac C: Anatomy Syllabus. Department of Physical Therapy, University of Florida, Gainesville, FL, 2013.
- Senesac CR, Bishop M: Finley's Interactive Cadaveric Dissection Guide, Jones and Bartlett 2010. Available on Amazon.com
- **\*You must have an Atlas, it can be any atlas BUT you must have one!\***  
**Real color photos work best for dissection.**
  - Rohen, JW, Yokochi, C, Lutjen-Drecoll, E: Color Atlas of Anatomy, Seventh Edition, Williams and Wilkins, 2011. \*(You must have an atlas)
  - Gilroy AM, MacPherson BR, Ross LM: Atlas of Anatomy, Thieme Medical Publishers 2008
  - Atlas of Human Anatomy: Netter
- Biel, A: Trail Guide to the Body, Third Edition, Books of Discovery, 2005

**RECOMMENDED:**

- Muscolino JE, Musculoskeletal Anatomy Coloring Book, 2<sup>nd</sup> edition, Mosby, 2010 (~\$24.95 softcover). Available at bookstores and [Amazon.com](http://Amazon.com)
- **\*\*Many of the overheads used in the course come from this book**

**EQUIPMENT AND DRESS:**

Each student **MUST** have their own dissection kit! A dissection kit consisting of a probe, scalpel with **handle #3 and blades #10**, hemostat forceps (5 inch), and tissue forceps (without tooth) is **REQUIRED**. You will need approximately 20- 30 blades (#10) for this semester. A lab coat will prevent fluids from staining your clothes and is **REQUIRED**. Plastic lab coats or aprons are not satisfactory. The Florida State Anatomical Board **REQUIRES** all persons handling cadaveric materials to wear gloves (latex). A mask is optional. I recommend the molded type of mask, rather than the soft mask. These may be purchased at a local pharmacy. You must wear close toe shoes in the laboratory **NO** open toe shoes may be worn in the lab.

\*If you arrive with open toe shoes you will be asked to leave the lab.

\*If you do not have other required items you will be asked to leave the lab.

Classroom Laboratory Sessions: Appropriate dress, therefore, is shirt and shorts that allow free unencumbered movement of the trunk and extremities. Occasionally, sports bras will be required of the ladies; during laboratory session for the upper extremity, for example.

**Instructional Methods:**

- Dissection Lecture: lecture, discussion, group presentations
- Dissection Lab: guided dissection with feedback, student presentations
- Functional Lecture: lecture/discussion,
- Functional Classroom Laboratory: sessions are designed to facilitate your understanding of anatomy in the context of function and movement.

**GRADING SCALE:**

93-100 =	A 4.00 grade point
90-92 =	A- 3.67 grade point
87-89 =	B+ 3.33 grade point
83-86 =	B 3.00 grade point
80-82 =	B- 2.67 grade point
77-79 =	C+ 2.33 grade point
73-76 =	C 2.00 grade point
70-72 =	C- 1.67 grade point
67-69 =	D+ 1.33 grade point
63-66 =	D 1.00 grade point
60-62 =	D- 0.67 grade point
Below 60 =	E 0 grade point

**COURSE POINTS:**

Lab Exam 1	15
Lab Exam 2	25
Quiz 1	5
Quiz 2	5
Written 1	20
Written 2	25
Comp 1	2.5
Comp 2	2.5
<b>TOTAL</b>	<b>100</b>

All grades on written and laboratory examinations will be carried out to the second decimal point and recorded as such. For the final course grade, the student must achieve the full numerical grade to achieve the letter grade. For example, a final course grade of 82.99 is still a B- grade, but a final grade of 85.00 will be recorded as a B.

Grades given on an exam will not be changed once a week has elapsed after handing back the graded exam. Please make an appointment to discuss individual answers. Lab exams are available for review by appointment.

**\*\*\* On examination days class will begin at 7:30 AM \*\*\***

### **Academic Honesty / Honor Code**

In this professional program we are particularly sensitive to students submitting independent work and to using complete and accurate referencing in complying with the University of Florida Rules - 6CI- 4.017 Student Affairs: Academic Honesty Guidelines. Further details regarding the University of Florida honesty policy is available at: <http://www.dso.ufl.edu/judicial/procedures/academicguide.php> and in your student handbook. All students are required to abide by the Academic Honesty Guidelines, the following pledge has been accepted by the University and is expected of all students: **“We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity”**. 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."**

### **Policy Related to Class Attendance**

**Attendance is mandatory.** Please contact the instructors as soon as possible if you are unable to attend class for any reason. Personal issues with respect to class attendance or fulfillment of course requirements will be handled on an individual basis.

### **Policy Related to Make-up Exams**

In extraordinary circumstances it may be possible to take an exam early or late. If for any reason you are unable to attend an exam at the last minute, you must notify the instructor as soon as possible. Personal issues with respect to exams will be handled on an individual basis.

### **Accommodations for students with disabilities**

If you require classroom accommodation because of a disability, you must first register with the Dean of Students Office (<http://oss.ufl.edu/>). The Dean of Students Office will provide documentation to you, which you then give to the instructor when requesting accommodation. The College is committed to providing reasonable accommodations to assist students in their coursework.

### **Counseling and Student Health**

Students may occasionally have personal issues that arise in the course of pursuing higher education or that may interfere with their academic performance. If you find yourself facing problems affecting your coursework, you are encouraged to talk with an instructor and to seek confidential assistance at the University of Florida Counseling Center, 352-392-1575, or Student Mental Health Services, 352-392-1171. Visit their web sites for more information: <http://www.counsel.ufl.edu/> or <http://www.health.ufl.edu/shcc/smhs/index.htm#urgent>

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, including primary care, women's health care, immunizations, mental health care, and pharmacy 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: [www.health.ufl.edu/shcc](http://www.health.ufl.edu/shcc)

Crisis intervention is always available 24/7 from: Alachua County Crisis Center: (352) 264-6789. *BUT – 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 - do not be afraid to ask for assistance.*

**STUDENT RESPONSIBILITIES Specific to dissection:**

- 1) A student is expected to attend the lecture and laboratory sessions each week for the complete scheduled class time. The student is responsible for the content in the "Anatomy Syllabus" as indicated in the course objectives. In addition, the student is responsible for selected content in "The Dissector's Guide" as indicated in the course objectives.
- 2) **The only excused absence is for illness.** If a student misses a lab because of illness, the student is expected to make up the time in the lab outside of class time. Once the time has been made up, inform Dr. Senesac in writing by email so the student is considered "excused". If a student is absent from lab without being excused by the instructor, three (3) points are subtracted from the final course grade for each absence. Other special individual circumstances may be discussed with the instructor.
- 3) Each student is responsible for an **EQUAL share** of the dissection work. If the instructor observes during class time that a student is not doing his/her share of the dissection, the student will be notified. If the problem is not corrected following the warning, five (5) points will be subtracted from the final grade. Subsequent unheeded warnings will result in additional 5-point deductions from the final grade with each notification.
- 4) **Dissection of a region must be completed prior to the examination day** on that region. If dissection is not completed by this time, each partner on the side of the table will have 10 points subtracted from their Written Examination grade and their Laboratory Examination grade on that region.

**ALL STUDENTS**

**SPECIAL JOINT DISSECTIONS** - Each student will be assigned to a special joint dissection. **You will present the joint and ligaments in lecture.** If you are not assigned a joint dissection this semester you will be assigned one the following semester. The actual joint dissection will be done outside of class time and presented to the class during assigned lab sessions.



**FUNCTIONAL ANATOMY LECTURE AND LAB  
SCHEDULE\_FALL\_2013**

**BRING YOUR SYLLABUS and DISSECTOR'S GUIDE TO LECTURE AND LAB (Tuesday and Thursday). IN ADDITION, at least one lab partner will ALWAYS BRING an ATLAS TO LAB WHEN DISSECTING; if there is not one at the table you will be asked to leave to get one.**

The schedule below lists the material to be covered for class and laboratory preparation. The Anatomy Syllabus, and Finley's Interactive Cadaveric Dissection Guide should be used in preparation for class-**PRIOR** to class. Pages in your selected Anatomy Atlas are to be looked up by the student. **The student is expected to have studied the DVD prior to lecture and lab**

WEEK		DAY/ DATE	LECTURE and LAB	TOPIC
1		Thursday Aug 22 7:30-9:25	Extended lecture	Introduction to the full course, anatomical terminology, osteology scapula, clavicle, humerus, sternum, ribs, vertebrae
			Video	Superficial back and posterior axilla
		30-45 minutes	LAB	Introduction-no dissection
	PT 1104 8:30-10:25	Friday Aug 23	Lecture	Formaldehyde presentation-H&S pp Muscles superficial back Blood supply, nervous systems, and brachial plexus introduction
2		Tuesday Aug 27	Lecture	Nervous System, Brachial Plexus, Pectoral Region, Anterior/posterior brachium
			LAB	Begin dissection of superficial back and post axilla
	Dr Bishop	Wednesday Aug 28		
		Thursday Aug 29	Lecture	Continue Brachial Plexus, Pectoral region, Anterior/posterior brachium-REVIEW Introduce cubital fossa
****			LAB	Begin dissection of Pectoral Region, Ant/Post brachium
	TAs	3:00-5:00		Study tips



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	<b>3:00-5:00</b>			
<b>3</b>		<b>Tuesday Sept 3 7:30-9:25</b>	<b>Lecture</b>	Osteology: proximal radius and ulna, distal radius, ulna, carpal bones, metacarpals, and phalanges <b>Catch up</b>
			<b>Video</b>	Brachial Plexus
			<b>LAB</b>	Continue dissection of the pectoral region, brachial plexus, brachium, and begin dissection of cubital fossa
	<b>Dr Bishop</b>	<b>Wednesday Sept 4</b>		Muscle Function, Motion, Palpation
	<b>No lecture</b>	<b>Thursday Sept 5</b>	<b>Lecture</b>	Cubital fossa, Anterior forearm Catch up and <b>REVIEW</b>
			<b>LAB</b>	Continue as above and begin anterior forearm
<b>4</b>	<b>Guest lecturer: Ishu</b>	<b>Tuesday Sept 10</b>	<b>Lecture</b>	Joint structures in general Dorsal-lateral surface of the forearm and the dorsal hand <b>REVIEW</b>
			<b>LAB</b>	Continue with UE dissection
	<b>Dr Bishop</b>	<b>Wednesday Sept 11</b>		UE
		<b>Thursday Sept 12</b>	<b>Lecture</b>	The Palmar surface of the hand
			<b>LAB</b>	Begin dissection of the palmar surface of the hand
<b>5</b>	<b>IFH Note schedule changes</b>	<b>Tuesday Sept 17</b>	<b>Lecture</b>	<b>Catch up</b>
<b>****</b>	<b>QUIZ I Oral at your table</b>	<b>First lab 8:35-10:15 Second lab 12:50-2:30</b>	<b>LAB</b>	<b>QUIZ I</b> -oral to discuss Continue dissection of the UE
	<b>Dr Bishop</b>	<b>Wednesday Sept 18</b>		UE
	<b>Guest lecturer: Ishu</b>	<b>Thursday Sept 19</b>	<b>Lecture</b>	Review of blood supply, cutaneous innervation, and dermatomes. <b>REVIEW UE</b>
			<b>LAB</b>	Finish dissection of the UE

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<b>6</b>		<b>Tuesday Sept 24</b>	<b>Lecture</b>	Course of each nerve of the brachial plexus Begin upper extremity nerve injuries
			<b>LAB</b>	Finish dissection of the UE Trace each nerve and work through nerve injuries
	<b>Dr Bishop</b>	<b>Wednesday Sept 25</b>		UE
		<b>Thursday Sept 26</b>	<b>Lecture</b>	Finish nerve injuries of the Upper Extremity: radial, ulnar, median <b>REVIEW</b>
			<b>LAB</b>	Finish dissection as needed Be sure everything has been dissected including muscles, blood supply, cutaneous and muscular innervations for each nerve
<b>7</b>		<b>Tuesday Oct 1</b>	<b>Special assignment</b>	<b>Upper extremity special dissections will be assigned by email -presentation due TBA</b>
			<b>Lecture</b>	NEW MATERIAL (not on exam) Osteology of the ilium, ishium, pubis, sacrum, and the vertebral column <b>REVIEW-for exam</b>
			<b>LAB</b>	<b>Review</b> -look at all cadavers
	<b>Dr Bishop</b>	<b>Wednesday Oct 2</b>		UE
<b>****</b>	<b>EXAM I</b>	<b>Thursday Oct 3 Regular time</b>	<b>Lecture</b>	<b>EXAM I</b> <b>Written exam for all</b>
			<b>LAB</b>	The laboratory examination will be on <b>ALL</b> the cadavers in CG-007. You will have one hour to complete the laboratory portion of the exam. Your exam time will be posted.
<b>8</b>	<b>Guest lecturer: Ishu</b>	<b>Tuesday Oct 8</b>	<b>Lecture</b>	Review typical spinal nerves Anterior Abdominal Wall/Abdominals Deep back, posterior neck, and sub-occipitals Cutaneous innervation and dermatomes of the trunk
			<b>Video</b>	Abdominal wall
			<b>LAB</b>	Begin anterior abdominal wall

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				Review osteology
	<b>Dr Bishop</b>	<b>Wednesday Oct 9</b>		Spine, <b><u>Palpation Competency</u></b>
		<b>Thursday Oct 10</b>	<b>Lecture</b>	New material: Joints of the Axial Skeleton Joints of the ilium, pubis, sacrum, and axial skeletal
			<b>LAB</b>	Finish anterior abdominal wall. Begin dissection of deep back
<b>9</b>	<b>IFH</b> <b>*See time changes</b>	<b>Tuesday Oct 15</b>	<b>Special assignment</b>	<b>Laminectomy special dissection assigned: By email. presentation due TBA</b>
		<b>7:30-8:30</b>	<b>Lecture</b>	Sub-occipitals, LE osteology-pelvis, femur
		<b>First lab 8:35-10:15 Second lab 12:50-2:30</b>	<b>LAB</b>	Finish deep back, posterior Begin posterior neck and sub-occipital area Look over Osteology
	<b>Dr Bishop</b>	<b>Wednesday Oct 16</b>		Spine
		<b>Thursday Oct 17</b>	<b>Lecture</b>	Lumbar plexus, inguinal canal Anterior/Add thigh
			<b>LAB</b>	Begin lumbar plexus
<b>10</b>		<b>Tuesday Oct 22 7:30-8:20</b>	<b>Lecture</b>	<b>UE joint presentations-by students <u>REVIEW</u></b>
			<b>LAB</b>	<b>UE joint presentations-by students</b> Finish Lumbar Plexus Begin Anterior/Add thigh
	<b>Dr Bishop</b>	<b>Wednesday Oct 23</b>		Spine
		<b>Thursday Oct 24</b>	<b>Lecture</b>	Arteries and veins-general The skin-general LE arteries/veins <b>Laminectomy presentation-by students</b>
			<b>LAB</b>	Finish Anterior/Add thigh <b>Laminectomy presentation-by students</b>
<b>11</b>		<b>Tuesday Oct 29</b>	<b>Lecture</b>	LE Osteology, LE arteries/veins Gluteal region, posterior thigh
			<b>LAB</b>	Finish Ant/Add thigh Begin Gluteal/post thigh
	<b>Dr Bishop</b>	<b>Wednesday</b>		Spine

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		<b>Oct 30</b>		
		<b>Thursday Oct 31</b>	<b>Lecture</b>	Popliteal region, Sacral Plexus, Cutaneous, Dermatomes <b>REVIEW</b>
			<b>LAB</b>	Continue gluteal region and posterior thigh Begin popliteal region
<b>12</b>		<b>Tuesday Nov 5</b>	<b>Lecture</b>	Anterior and lateral compartments of the leg Dorsum of the foot
			<b>LAB</b>	Finish gluteal region and posterior thigh Begin anterior/lateral compartments of the leg Begin dorsum of foot
	<b>Dr Bishop</b>	<b>Wednesday Nov 6</b>		Hip Structure
<b>****</b>	<b>QUIZ II</b>	<b>Thursday Nov 7</b>	<b>Lecture</b>	Posterior compartment leg Blood supply, cutaneous innervation, dermatomes
			<b>LAB</b>	<b>QUIZ II</b>
<b>13</b>		<b>Tuesday Nov 12</b>	<b>Lecture</b>	The sole
			<b>LAB</b>	Finish anterior and lateral compartments of the leg and dorsum of the foot Begin posterior compartment
	<b>Dr Bishop</b>	<b>Wednesday Nov 13</b>		LE
		<b>Thursday Nov 14</b>	<b>Lecture</b>	Catch up! <b>REVIEW</b>
			<b>LAB</b>	Continue posterior compartment of the leg Begin sole of the foot
<b>14</b>	<b>IFH</b> <b>*See time changes</b>	<b>Tuesday Nov 19 7:30-8:20</b>	<b>Lecture</b>	Begin nerve injuries <b>Assign LE joint dissections</b>
		<b>First lab 8:35-10:15 Second lab 12:50-2:30</b>	<b>LAB</b>	Finish the sole of the foot Finish the LE Begin to work through LE nerve injuries
	<b>Dr Bishop</b>	<b>Wednesday Nov 20</b>		LE
		<b>Thursday Nov 21</b>	<b>Lecture</b>	Finish LE nerve injuries

			LAB	Finish all dissection
15		Tuesday Nov 26	Lecture	Presentation of LE joints REVIEW
			LAB	Trace each nerve, work through each nerve injury Presentation of LE joint dissections
	Dr Bishop	Wednesday Nov 27		LE
****	NO CLASS	Thursday Nov 28	Lecture	<u>THANKSGIVING DAY</u>
16	REVIEW	Tuesday Dec 3	Lecture	Catch up! REVIEW-for exam
			LAB	Review all bodies Review special joint dissections Quiz at tables for review
	Dr Bishop	Wednesday Dec 4		TBA
****	NO CLASS	Thursday Dec 5	Lecture	STUDY READING DAYS
			LAB	STUDY

**FINALS WEEK**

*Dec. 7-13*



Sat. Dec. 7  
Time TBA

**Laboratory Exam**

The **laboratory examination** will be on ALL the cadavers in CG-007. Lab exams will contain up to 15% of old material from the beginning of class. It is strongly recommended that you review this information. You will have one hour to complete the laboratory exam. Your exam time will be posted.

Tues. Dec.10

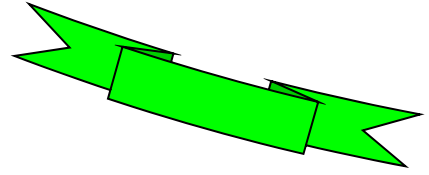
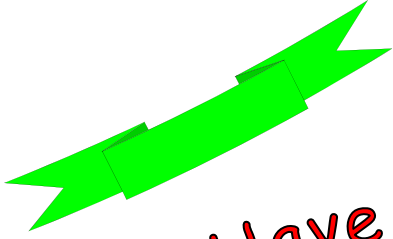
**FINAL EXAM - COMPREHENSIVE!!!**

The written exam will contain up to 15% of old material from the beginning of class. It is strongly recommended that you review this information.

TBA

*Dr. Claudia*

*Dr. Mark*



Have a great holiday  
and  
**DON'T DRINK and DRIVE**

