

CLINICAL ANATOMY FOR THE EXERCISE SCIENCES

ATR 6124/APK 4905C (VAR TOP EXER SPORT SCI)

3 CREDITS

SPRING 2022

INSTRUCTOR: Paul A. Borsa, PhD, ATC
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LECTURE TIME/ROOM: Wednesday, Period 2-4 (8:30-11:30am)

LAB TIME/ROOM: Lecture: FLG 107B; Dissection: Communicore (COMM) Anatomy Lab (CG 002)

OFFICE HOURS: Monday & Wednesday from 2:00-2:50pm or by appt.

COURSE WEBSITE: <https://lss.at.ufl.edu/>

COURSE DESCRIPTION: The course is designed for students to learn advanced dissection skills from a whole systems approach with the intent of practical application. The primary focus will involve human cadaver dissection. The role of anatomical structures as they relate to musculoskeletal injury mechanisms, evaluation, and rehabilitation will be emphasized.

TEXTBOOK AND OTHER COURSE MATERIAL:

The Dissector's Guide – Claudette Finley
Lecture Notes on UF/E-Learning (Canvas) System

PREREQUISITE KNOWLEDGE AND SKILLS: This course is for APK students only. All students (undergraduate and graduate) need to have taken APK 2100c (Applied Human Anatomy with Lab) or an equivalent course.

PURPOSE AND COURSE OBJECTIVES: The purpose of this course is to reinforce prior knowledge of human anatomy in an applied setting.

GENERAL COURSE GOALS: After taking this course, students should be able to:

- Employ professionalism, safety, and collaboration skills in dissecting a human cadaver.
- Name and identify specific gross musculoskeletal, articular, neurovascular, and related structures on a human cadaver.
- Relate anatomical knowledge to clinical situations such as athletic injuries, mechanisms, evaluation techniques, and rehabilitation exercises.

TEACHING PHILOSOPHY AND EXPECTATIONS: I am very passionate about Human Anatomy—and I hope that comes across in my approach for the course. Students can expect to engage in a guided discovery style of instruction where experiential learning is demanded. I expect students to put their best, most enthusiastic foot forward.

GENERAL COURSE FORMAT: The primary focus of the course will involve human cadaver dissection with clinical application. Dissection will be supplemented with required lectures delivered via CANVAS. Emphasis will be placed on the musculoskeletal, articular, and neurovascular systems of the human body.

COURSE POLICIES:

ATTENDANCE POLICY: Attendance is mandatory! Attendance will be taken at every lab meeting. Unexcused lab absences will result in point reductions. If you must miss class for a legitimate reason, please contact the instructor to request a make-up assignment. Documentation of a **valid** reason for missing must accompany the request. Make-up assessments are at the discretion of the instructor.

MAKE-UP POLICY: Unexcused, missed assessments will result in a zero on the assessment (this includes contacting the instructor **after** the assessment if you are ill). Make-up assessments will be given at the discretion of the instructor. Documentation will be required. 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 assessment. Requirements for class attendance and make-up exams, assignments, and other work are consistent with the university policies that can be found at <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

PERSONAL CONDUCT POLICY: You are expected to treat your fellow classmates, TAs, and the instructor with respect and politeness. Things that will not be tolerated include (1) inappropriate use of technology during class or lab, (2) disrespectful language or actions, and (3) honor code violations. Academic honesty and integrity are fundamental values of the University community. Students should be sure that they understand the **recently revised UF Student Honor Code** at <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>. Honor code violations of any kind will not be tolerated and sanctions will be determined by the course instructor for first-time violators. Any use, access, or handling of technology during an exam will result in a zero on the exam **and** potential failure of the course. All allegations, regardless of the severity, will be reported to the Dean of Students Office for University-level documentation and processing.

UNIVERSITY POLICY ON 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 retro-active, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

Students registered with the DRC: Practical exams and lab exams will be administered in the lab, *not at the DRC* – thus, no testing request is required. Please just notify your course instructor of your approved accommodations so that an appropriate solution can be agreed upon. For any in-class assessments, please make sure to make arrangements directly with the course instructor prior to the assessment date.

UNIVERSITY POLICY ON 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.ua.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.ua.ufl.edu/public-results/>.

NETIQUETTE - COMMUNICATION COURTESY: All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats. <http://teach.ufl.edu/wp-content/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf>

GETTING HELP:

For issues with technical difficulties for CANVAS, please contact the UF Help Desk at:

- helpdesk@ufl.edu or (352) 392-HELP - select option 2
- <https://at.ufl.edu/service-teams/uf-computing-help-desk/>

Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from Helpdesk when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

Other resources are also available for you:

- Disability resources <https://www.dso.ufl.edu/drc/>
- Ask-a-Librarian <http://cms.uflib.ufl.edu/ask>
- Counseling and Wellness <https://counseling.ufl.edu/>
- For suggestions or concerns related to IDEA, please reach out to any of the following:
 - Dr. Rachael Seidler, APK Graduate Coordinator, rachaelseidler@ufl.edu
 - Dr. Joslyn Ahlgren, APK Undergraduate Coordinator, jahlgren@ufl.edu

GRADING POLICIES:

Quizzes: 75% of final grade; There will be weekly quizzes from the assigned readings and lectures posted to Canvas.

Discussion Boards: 15% of final grade; you will be required to complete 6 discussion boards which will include your thoughts, opinions, or reflections on what you are learning, finding interesting, etc., about the course and clinical anatomy in general.

Class Participation: professionalism, including preparation, attendance and active participation is expected in this class.

Clinical Topic Presentation (Graduate-level ONLY): The student will prepare a 15-minute presentation on a topic of clinical interest. These presentations are designed to relate topics of clinical relevance to dissected regions of the cadaver. Students will refer to their dissection during the presentation.

Evaluation Criteria

Evaluation Components	Points Per Component	% of Total Grade
Quizzes	20 pts each x 15 = 300 pts	80
Discussion Boards	5 pts each x 6 = 30 pts	10
Class Participation	2 pts/class = 30 pts	10
Lab Presentation (Graduate Only)	No grade	0

GRADING SCALE: All grades will be posted in the CANVAS gradebook. Any discrepancies with points displayed in the gradebook should be pointed out to the instructor before the last day of class (prior to reading days).

There is no curve for this course and grades will not be rounded up unless you qualify for such. *Any requests for 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. More detailed information regarding current UF grading policies can be found here:

<https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>.

Grade	Percent of Total Points Needed	GPA Impact
A	94.00-100%	4.0
A-	90.00-93.99	3.67
B+	87.00-89.99%	3.33
B	84.00-86.99%	3.0
B-	80.00-83.99	2.67
C+	77.00-79.99%	2.33
C	74.00-76.99%	2.0
C-	70.00-73.99%	1.67
D+	67.00-69.99%	1.33
D	64.00-66.99%	1.0
D-	60.00-63.99%	0.67
E	0-59.99%	0

COURSE OUTLINE & SCHEDULE:

Required readings from the dissection guide and pre-recorded lectures will be listed in the CANVAS shell under the week they will be assigned. Please refer to the CANVAS Home page for links to readings and lectures.

Weeks 1 through 5

Section I – Back and Upper Extremity

Position: prone

<u>Area</u>	<u>Pages</u>
Superficial back and posterior axilla	1-3
Posterior surface of the arm	3
Deep back and posterior neck	3-4
Sub-occipital region	4-5

Section II – Posterior Lower Extremity

Position: prone

<u>Area</u>	<u>Pages</u>
Posterior hip & thigh	5-8
Posterior leg, popliteal fossa & Sole (plantar surface of foot)	8-11

Weeks 6 through 10

Section IV – Neck, Chest and Upper Extremity

Position: supine

<u>Area</u>	<u>Pages</u>
Lateral neck	11-13
Pectoral region	13-15
Anterior surface of the arm	15-16
Flexor surface of the forearm	17-19
Postero-lateral surface of forearm	19-21
Flexor surface of the hand	21-24
Dorsum of the hand	24

Section V – Trunk

Position: supine

<u>Area</u>	<u>Pages</u>
Anterior abdominal wall	25-26

Section VI – Anterior Lower Extremity

Position: supine

<u>Area</u>	<u>Pages</u>
Anterior thigh – adductor thigh	26-29
Anterior leg – lateral leg	29-30
Dorsum of the foot	30-32

Weeks 11 through 14

Section VII – Joints of the Upper Extremity

Position: supine

<u>Area</u>	<u>Pages</u>
Sterno-clavicular & Acromio-clavicular joint	32
Glenohumeral joint	33
Elbow and proximal/distal radio-ulnar joint, wrist, hand & fingers	33-34

Section VIII – Joints of the Lower Extremity

Position: supine

<u>Area</u>	<u>Pages</u>
Hip joint	35
Knee and proximal tibio-fibular	35-36
Ankle and distal tibio-fibular joints	36-37
Inter-tarsal joints	37
Joints of the foot and phalanges	37

Section IX – Intra-Abdominal and Thoracic Regions

Position: supine

<u>Area</u>	<u>Pages</u>
Lumbar plexus, lungs, heart & abdominal contents	38-49

Section X – Head and Neck

Position: supine

<u>Area</u>	<u>Pages</u>
Cranium, Face, TMJ, Anterior Neck	49-55

Week 15

Section X – Spinal Column and Spinal Cord

Position: prone

<u>Area</u>	<u>Pages</u>
Cervical, thoracic and lumbar spine	61 – 62

LABORATORY PROCEDURES

Laboratory Materials: Gloves will be provided. Each student must purchase a white laboratory coat and/or surgical scrubs. These items may be purchased at the Health Science Center Bookstore or on-line.

General Guidelines:

- Instructional Procedures** – Prior to laboratory dissection every student MUST read and sign the **Pledge of Respect** form. Also, you will be expected to review the laboratory procedures and cadaver care instructions available on-line at <http://www.medinfo.ufl.edu/year1/ha/labpros.shtml> and <http://www.medinfo.ufl.edu/year1/ha/cadavers.shtml>. The laboratory dissection will comprise the

majority of the time. In addition to dissection of the cadavers, students will be responsible for learning the bony landmarks on the skeletons and bones available in the laboratory. It will be imperative that each student review the material from the preceding lectures and completes the assigned readings prior to dissection.

- B. Cadavers – We are extremely fortunate to have access to cadavers and the anatomy laboratory. In most cases, the cadavers are faithfully willed to the medical school for the purpose of enhancing medical training and knowledge. The cadavers must be treated with your utmost care and respect at all times. **Taking pictures of cadavers with cell phones or other devices is strictly prohibited.**
- C. Cadaver Care – Cadavers are subject to mold and drying. At the beginning of each lab session the cadavers should be thoroughly observed for mold; it can best be dealt with if treated before it is widespread.
1. Exposed areas should be lightly sprayed and wrapped with moist towels at the end of each lab session.
 2. Body bags should be zipped at the conclusion of all lab sessions to avoid exposure to air.
 3. No tools should be left attached to the cadaver when they are not being used.
 4. Toe tags must remain on the cadavers at all times.
- D. Dissecting Guidelines:
1. Students will be free to dissect as they need to in order to thoroughly observe and study all components of each body region.
 2. **Each group is required to have a dissector's guide open at all times.**
 3. The opportunity to dissect should be available equally to all students. One person should read from the dissector's guide as the other dissects. Students should rotate jobs every other class.
 4. Know what you are looking for and what you intend to cut before dissecting.
 5. Know origin, insertion, action, vascular supply and innervation of each muscle before it is cut. Do not remove any structures unless instructed to do so. In most cases, you will reflect superficial structures so that you can access deep structures. Those structures that are reflected should be replaced at the end of each laboratory session. The goal of dissection is to reveal and preserve all possible detail.
- E. Facilities & Additional Information: We are very fortunate to have access to the anatomy laboratory. This is a privilege. However, it is our responsibility to keep the room clean and to comply with the OSHA (Occupational Safety and Health Administration) standards.
1. Each group will be responsible for the upkeep of their general area. There should not be any debris remaining on the floor or dissecting table – THIS INCLUDES BODY TISSUE. However, once a week the laboratory must be mopped and wiped down with a disinfectant cleaning solution. This job will be rotated by dissection groups.
 2. Three types of waste containers will be available in the lab. It is imperative that these items are used appropriately: a) **standard garbage can** – used for paper towels, gloves, etc.; b) **biohazardous waste can** – used only for tissue & cadaver parts (NO METAL SUCH AS BLADES); c) **sharps container** – used for blades (BLADES MUST NOT BE EXPOSED FROM TOP OF CONTAINER)
 3. Eating and/or drinking are not permitted in the laboratory.
 4. Wearing a white lab coat (or surgical scrubs) and gloves while dissecting is required.
 5. Securing long hair away from the face is recommended.
 6. Wearing protective eye goggles while using the cast saw is required.