

Clinical Anatomy for the Exercise Sciences

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APK 4106C/5150C | Class # 26291/26796 | 3 Credits | Spring 2025

Course Information

INSTRUCTOR

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Preferred Method of Contact: **CANVAS email for current students**

OFFICE HOURS

MW 2:00-2:50pm

LOCATION

FLG 225 (lectures as needed); COMM Anatomy Laboratory (CG 002)

MEETING TIME

W (period 2-4; 8:30-11:30am)

COURSE DESCRIPTION

The course uses an integrated approach to discuss topics of cell, tissue and organ structure and function and 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.

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.

REQUIRED MATERIALS

Required Text: Essentials of Anatomy & Physiology Edition: 8th Authors: Scanlon and Sanders
Publisher: F.A. Davis Year: 2019 ISBN: 978-0803669376

The Dissector's Guide – M. Claudette Finley@2001, ISBN: 978-0763771249

Lecture Notes on UF/E-Learning (Canvas) System

COURSE FORMAT

The primary focus of the course will involve human cadaver dissection with clinical application. Dissection will be supplemented with required lectures and exams delivered via CANVAS. Students can expect to engage in a guided discovery style of instruction where experiential learning is demanded. Students are expected to put their best, most enthusiastic foot forward.

COURSE LEARNING OBJECTIVES:

The purpose of this course is to reinforce prior knowledge of human anatomy in an applied setting. After taking this course, students should be able to:

- Employ professionalism, safety, and collaboration skills in dissecting a human cadaver.
- Describe the relationship between structure and function at all levels of organization (cellular, tissue, organ, system, organism).
- Utilize correct anatomy and physiology terminology and language to describe the various structures and physiological processes of the body.

- 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.

Course & University Policies

ATTENDANCE POLICY

Attendance is mandatory! Attendance will be taken at every lab meeting. Unexcused lab absences will result in point reductions. If you have to 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.

PERSONAL CONDUCT POLICY

Students are expected to exhibit behaviors that reflect highly upon themselves and our University. UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. 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.” The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. All potential violations of the code, regardless of severity, will be reported to Student Conduct and Conflict Resolution. If a student is found responsible for an Honor Code violation in this course, the instructor will enter a Grade Adjustment sanction which may be up to or including failure of the course. Specifically, any use, access, or handling of technology during an exam will result in a zero on the exam and further educational sanctions per the University.

MAKE-UP POLICY

No makeup examinations or quizzes will be given without a serious and/or compelling reason.

Step 1: Get documentation of your illness or emergency. A student experiencing an illness should visit the UF Student Health Care Center or their preferred healthcare provider to seek medical advice and obtain documentation. If you have an emergency you wish to remain more private, you may contact the Dean of Students Office (www.dso.ufl.edu) and follow the DSO Care Team procedures for documentation and assistance (<https://care.dso.ufl.edu/instructor-notifications/>).

Step 2: Submit a make-up request to the instructor via CANVAS email. In the request provide reason for missing exam/quiz and availability for make-up. Make-ups will not be granted for personal travel/vacations. Additionally, many students will encounter multiple exams in one day. Only if another exam is scheduled for the same time as an exam in this course will a make-up request be considered.

Should a student miss an exam due to an unexcused reason (e.g., oversleeping, mixing up the exam time, etc.), the exam can be taken with a 20% penalty if taken within 24 hours of the original exam time or with a 40% penalty if taken within 48 hours of the original time.

Requirements for class attendance and make-ups, 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>.

Tip: Always contact the instructor immediately or well ahead of the scheduled date if you need to miss a quiz or exam.

ACCOMMODATING STUDENTS WITH DISABILITIES

Your instructor is committed to creating a course that is inclusive in its design. If you experience a learning barrier and would like to request academic accommodations you should connect with the Disability Resource Center by visiting their Get Started page at <https://disability.ufl.edu/students/get-started/>. It is important for

students to share their accommodation letter with their instructor and discuss their access needs as early as possible in the semester.

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. This evaluation system is designed to be more informative to instructors so that teaching effectiveness is enhanced and to be more seamlessly linked to UF's CANVAS learning management system. Students can complete their evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://my-ufl.bluera.com/>. Thank you for serving as a partner in this important effort.

Getting Help

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

- helpdesk@ufl.edu or (352) 392-HELP
- <https://helpdesk.ufl.edu/>

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 opti on 2) or e-mail to Learning-support@ufl.edu. <https://lss.at.ufl.edu/help.shtml>
- Career Connections Center, Reitz Union, 392-1601. Career assistance and counseling. <https://career.ufl.edu/>
- Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.
- Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. <http://teachingcenter.ufl.edu/>
- Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. <http://writing.ufl.edu/writing-studio/>
- 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/>

This table provides a list of graded course components, number and points for each, and the grading criteria for both graduate vs. undergraduate students. Below the table you can find more information on each component.

Evaluation Components	Points Per Component	% Total Grade (UG)	% Total Grade (Grad)
Exams	50 pts each x 6 = 300 pts	80	75
Discussion Boards	5 pts each x 6 = 30 pts	10	10
Class Participation	2 pts/class = 30 pts	10	10
Lab Presentation (Graduate Only)	25 pts	0	5

Exams: There will be 6 exams from the assigned readings and lectures posted to Canvas. Exams will contain primarily multiple choice, matching, and true/false questions.

Discussion Boards: There will be 6 Discussion Boards (5 points each = 30 points). Students are required to participate in all discussion board assignments. To receive full credit for each post, please write a minimum of 200 words (3-pt deduction if not sufficient), but feel free to write as much as you need-keep in mind, some topics take more explanation than others. Reference your sources, if possible. Also, respond to at least 2 peers with a minimum of 50 words each (1-pt deduction for each deficient peer response). Final post due by 11:59pm Sunday of the week that the board is posted in the syllabus.

Length of post: Discussion thread posts should be 200 words or more in length.	3 pts If post is 200 or more words in length.	0 pts If post is less than 200 words in length.
Number of replies: Each student should respond to at least 2 peers (50 words or more for each).	2 pts If you respond to at least 2 peers.	0 or 1 pt 0 pts if you do not respond to any peers, 1 pt if you respond to 1 peer, and 2 pts if you respond to 2 peers.

Class Participation: Professionalism, including preparation, attendance and active participation is expected in this class. Attendance will be taken during each class session with points being deducted for each unexcused absence (2 pts/absence)

Lab Presentation (Graduate-level ONLY): To demonstrate critical thinking and application of major concepts learned each graduate student will prepare a 15-minute presentation on a topic of clinical interest (approved by the instructor). 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. The categories that will be graded will include background information, pathology/signs & symptoms, evidence-based, logical progression of thought, key points clearly expressed, and overall impression. Each category will be graded using a 0-5 Likert scale with 5 being outstanding and 0 not satisfactory. The format and design of the presentation, as well as the grading rubric will be posted as a separate document on CANVAS.

GRADING SCALE

More detailed information regarding current UF grading policies can be found here:

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

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	83.00-86.99%	3.0
B-	80.00-82.99	2.67
C+	77.00-79.99%	2.33
C	73.00-76.99%	2.0
C-	70.00-72.99%	1.67
D+	67.00-69.99%	1.33
D	63.00-66.99%	1.0
D-	60.00-62.99%	0.67
E	0-59.99%	0

WEEKLY DISSECTION 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

Areas:

Superficial back and posterior axilla

Posterior surface of the arm

Deep back and posterior neck

Sub-occipital region

Pages

1-3

3

3-4

4-5

Section II – Posterior Lower Extremity

Position: prone	
Areas:	Pages
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	
Areas:	Pages
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	
Areas:	Pages
Anterior abdominal wall	25-26

Section VI – Anterior Lower Extremity

Position: supine	
Areas:	Pages
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	
Areas:	Pages
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	
Areas:	Pages
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	
Areas:	Pages
Lumbar plexus, lungs, heart & abdominal contents	38-49

Section X – Head and Neck

Position: supine

Areas:	Pages
Cranium, Face, TMJ, Anterior Neck	49-55

Week 15

Section X – Spinal Column and Spinal Cord

Position: prone

Areas:	Pages
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.

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.

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.

- Exposed areas should be lightly sprayed and wrapped with moist towels at the end of each lab session.
- Body bags should be zipped at the conclusion of all lab sessions to avoid exposure to air.
- No tools should be left attached to the cadaver when they are not being used.
- Toe tags must remain on the cadavers at all times.

Dissecting Guidelines:

- Students will be free to dissect as they need to in order to thoroughly observe and study all components of each body region.
- Each group is required to have a dissector’s guide open at all times.
- 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.
- Know what you are looking for and what you intend to cut before dissecting.
- 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.

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.

- 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.
- 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)
- Eating and/or drinking are not permitted in the laboratory.
- Wearing a white lab coat (or surgical scrubs) and gloves while dissecting is required.
- Securing long hair away from the face is recommended.
- Wearing protective eye goggles while using the cast saw is required.

Weekly Course Lecture Schedule:

Week	Module	Assignments	Due Date	Point Value
1-2	Organization/General Plan for the Human Body & Anatomical Terminology	Read Ch. 1 Discussion Board 1	Friday, Jan 17	5
2-3	Cellular and Tissue Level of Organization	Read Ch. 3 & 4 Exam 1 (Ch. 1,3,4)	Sunday, Jan 26	50
3-4	Integumentary System; Skeletal System: Bone Tissue	Read Ch. 5 Discussion Board 2 Read Ch. 6 (pgs. 110-116)	Friday, Jan 31	5
4-5	Skeletal System: Axial & Appendicular Skeleton; Articulations	Read Ch. 6 (pgs. 117-133) Exam 2 (Ch. 5-6)	Sunday, Feb 16	50
5-6	Muscular System: Tissue; Skeletal Muscle Structure & Function	Read Ch. 7 Discussion Board 3	Friday, Feb 21	5
6-7	Muscular System: Skeletal Muscle Structure & Function	Read Ch. 7 Exam 3 (Ch. 7)	Sunday, Mar 2	50
7-8	Nervous System: Nervous Tissue; Brain & Spinal Cord	Read Ch. 8 & 9 Discussion Board 4	Friday, Mar 7	5
8-9	Nervous System: Sensory/Motor Integration; Endocrine System	Read Ch. 9 & 10 Exam 4 (Ch. 8-10)	Friday, Mar 14	50
9-10	Blood, Cardiovascular & Lymphatic System	Read Ch. 11-14 Discussion Board 5	Friday, Mar 28	5

10-11	The Lungs: Pulmonary Tissue Respiratory System: Lung Function & Gas Exchange	Read Ch. 15 Exam 5 (Ch. 11-15)	Sunday, Apr 6	50
11-12	Abdominal Region: Digestion, Thermoregulation & Metabolism	Read Ch. 16 & 17 Discussion Board 6	Friday, Apr 11	5
12-13	Fluid-Electrolyte and Acid/Base Balance	Read Ch. 19		
14	Human Genetics	Read Ch. 21 Exam 6 (Ch. 16,17,19 & 21)	Wednesday, Apr 23	50

March 17-21 is Spring Break – no classes