IPHY 3415 Student Packet – Fall 2018

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SYLLABUS - IPHY 3415, HUMAN ANATOMY LAB

LAB COORDINATOR Steven L Hobbs, steven.hobbs@colorado.edu
Office Hours: Ramaley N189, Tuesday 10:30 AM– 12:00 PM

COURSE WEB PAGES http://www.colorado.edu/intphys/iphy3415/index.html

REQUIRED MATERIAL

1) Human Anatomy Laboratory Manual – 4th Ed, Hobbs, et. al.
2) MyLab and Mastering A&P Access for Marieb, Human Anatomy, 8e – Pal (Practice Anatomy Lab) 3.1 is accessed from the study area within MyLab and Mastering A&P.
3) IPHY 3415 Human Anatomy Lab Model Atlas – 3rd Ed, Hobbs, et. al.

LAB PRACTICALS & QUIZZES

265 points are based on exams and quizzes as follows:

240 points	4 Midterm Practical Exams (60 each. See schedule for dates.)
15 points	Muscle Actions & Movement In-Class Quiz
10 points	Mastering A&P Online Quizzes

GRADING

Final grades are assigned based on percent of total points, without rounding, and using all decimal places carried by Canvas. Grading is 100% objective. Students will not be "bumped up" to the next grade based on effort, graduation status, financial aid consequences, etc. Grade cutoffs are below:

	86.7% = B+	76.7% = C+	66.7% = D+	0% - 59.9$\overline{9}$% = F
93.4% = A	83.4% = B	73.4% = C	63.4% = D	
90% = A-	80% = B-	70% = C-	60% = D-	

Re-Grades: TA's will only consider re-grades through the end of the next class period after graded exams are returned, or 24 hours after the last exams are graded and made available to students.
Exam Exemptions: No exams will be automatically "dropped". A student may be exempt from one exam if documentation is provided within two days of the exam, and qualifying reasons exist (see below). However…

IF A STUDENT TAKES AN EXAM AND RECIEVES THEIR SCORE, ANY OPPORTUNITY TO BE EXEMPT FROM THE EXAM, EVEN FOR QUALIFYING REASONS IS FORFEITED.

Exam Exemption Qualifiers: Documented cases of the following: severe acute illness or injury, family emergency (death or serious illness), severe accidents, extreme circumstances beyond your control.
Non-Qualifiers: Weather, weddings, vacations, bachelor(ette) parties, ski trips, athletic competitions, research conferences, work obligations, court dates, jury duty, incarceration or anything fun.

PRE-LAB QUIZZES

Weekly online quizzes through MyLab Mastering A&P exist for every day of new material. Quizzes due before the first exam (unit 1) are available on the first day of the semester. Subsequent quizzes associated with the remaining exams (units 2, 3 and 4) will be released on the first day of exams for the previous unit, or earlier. Quizzes are due at 11:59 PM on the Sunday **prior** to the classes that cover the quiz material. An additional quiz on the syllabus and schedule is due on Sunday of the first week. Each quiz can only be attempted once for credit. However, within a quiz attempt, individual multiple choice quiz questions can be attempted twice and will incur a 50% penalty per incorrect answer. Short answer questions can be attempted twice, but the first incorrect answer will not incur a penalty. Please keep in mind that computers, not humans, grade the quizzes. Write-in answers must be spelled perfectly and presented exactly as written in the lab manual, or in Pal 3.1. To do well on these quizzes, students should watch the lesson videos on CANVAS, preview the material in the lab manual, and review the slides on Pal 3.1 that are listed in each lesson plan.

Each day of new material is represented by two quizzes, A and B. Students will be assigned to group A or B

at the beginning of the semester. The purpose of these assignments is to give students a subset of material to focus on prior to class. However, students will have access to A and B versions of all quizzes. At the end of the semester, the best score for each quiz, A or B, will be used for grade calculations.

The penalty for submitting a quiz after the deadline is 10% per hour late. **Quiz exemptions or due date extensions will not be granted for ANY REASON.** This includes sickness, emergencies, Internet failures, other computer problems, technical problems related to your Mastering A&P account and all reasons that might otherwise qualify a student for an exam exemption. In lieu of quiz exemptions, the lowest 4 quiz scores will be dropped from student grade calculations.

Problems related to your MyLab Mastering A&P account should be directed to the Pearson technical support group, which can be accessed via the Support link at the bottom of every page on Mastering A&P. Your TA and the lab coordinator are unable to help with technical computer issues or issues with MyLab Mastering A&P. Quizzes will vary in the number of questions and difficulty, but all quizzes are equivalent in point value. Quiz scores will be converted into percentages. Average quiz percentages will be multiplied by 10 to calculate quiz points.

LABORATORY POLICIES AND CONDUCT

The Human Anatomy laboratory uses prosected human cadavers. This experience serves as a valuable teaching tool, and is one afforded to few students. Students are expected to show respect at all times toward the cadavers. Viewing the cadavers is limited to enrolled students and lab personnel. Students may not bring friends to the lab. If any student treats the cadavers with disrespect, defaces the cadavers in any way, or removes human anatomical specimens from the laboratory, a failing grade will be given for the course. Photography is not allowed in the lab. Violation of this policy may result in expulsion from the course and/or a failing grade.

Eating or drinking in lab is not permitted when the cadavers or cadaver tissues are exposed.

REQUIRED SYLLABUS STATEMENTS

ACCOMMODATION FOR DISABILITIES

If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the Disability Services website. Contact Disability Services at 303-492-8671 or dsinfo@colorado.edu for further assistance. If you have a temporary medical condition or injury, see Temporary Medical Conditions under the Students tab on the Disability Services website.

CLASSROOM BEHAVIOR

Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. For more information, see the policies on classroom behavior and the Student Code of Conduct.

HONOR CODE

All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code. Violations of the policy may include: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Honor Code (honor@colorado.edu); 303-492-5550). Students who are found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code as well as academic sanctions from the faculty member. Additional information regarding the Honor Code academic integrity policy can be found at the Honor Code Office website.

SEXUAL MISCONDUCT, DISCRIMINATION, HARASSMENT AND/OR RELATED RETALIATION

The University of Colorado Boulder (CU Boulder) is committed to fostering a positive and welcoming learning, working, and living environment. CU Boulder will not tolerate acts of sexual misconduct (including sexual assault, exploitation, harassment, dating or domestic violence, and stalking), discrimination, and harassment by members of our community. Individuals who believe they have been subject to misconduct or retaliatory actions for reporting a concern should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127 or cureport@colorado.edu. Information about the OIEC, university policies, anonymous reporting, and the campus resources can be found on the OIEC website.

Please know that faculty and instructors have a responsibility to inform OIEC when made aware of incidents of sexual misconduct, discrimination, harassment and/or related retaliation, to ensure that individuals impacted receive information about options for reporting and support resources.

RELIGIOUS HOLIDAYS

Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, {Faculty: *insert your procedures here*}.
See the campus policy regarding religious observances for full details.

TENTATIVE LAB SCHEDULE

IMPORTANT – Campus closures due to weather or other unforeseeable events may alter this schedule. Often a review day is eliminated and/or lab topic dates are altered when campus closures occur.

Week	Day	Date	Lab Topics
1	M/T	Aug 27/28	NO LABS – Cadaver Prep, TA & UGTA Training
	W/Th	Aug 29/30	Syllabus and Schedule, Intro Material, Lab Manual Pages 1 - 17.
2	M/T	Sep 3/4	Labor Day Holiday – NO LABS
	W/Th	Sep 5/6	Lesson 1: Appendicular skeleton day 1
	Friday, Sep 7, 11:59 PM – Last day waitlisted students can attend anatomy lab		
3	M/T	Sep 10/11	Lesson 2: Appendicular skeleton day 2
	Wed, Sep 12, 11:59 PM – Deadline to drop without a "W"		
	W/Th	Sep 12/13	Lesson 3: Axial skeleton day 1
4	M/T	Sep 17/18	Lesson 4: Axial skeleton day 2
	W/Th	Sep 19/20	Review
5	M/T	Sep 24/25	**Practical Exam 1**
	W/Th	Sep 26/27	Lesson 5: Muscles, Anterior Day 1
6	M/T	Oct 1/2	Lesson 6: Muscles Anterior Day 2
	W/Th	Oct 3/4	Lesson 7: Muscles, Posterior Day 1
7	M/T	Oct 8/9	Lesson 8: Muscles, Posterior Day 2
	W/Th	Oct 10/11	Lesson 9: Articulations, Origins, Insertions, Movement & Actions
8	M/T	Oct 15/16	Review
	W/Th	Oct 17/18	**Practical Exam 2 (No Movement or Action material)**
9	M/T	Oct 22/23	Lesson 10: Respiratory & Digestive
	W/Th	Oct 24/25	Lesson 11: **Movement & Action Quiz.** The Heart
10	M/T	Oct 29/30	Lesson 12: Arteries day 1
	W/Th	Oct 31/Nov 1	Lesson 13: Arteries day 2
	Fri, Nov 2, 11:59 PM - Last day to Drop a Class in MyCUInfo. After today, students must petition through Arts and Sciences Academic Advising in Woodbury 109		
11	M/T	Nov 5/6	Lesson 14: Veins
	W/Th	Nov 7/8	Review Day
12	M/T	Nov 12/13	Practical Exam 3
	W/Th	Nov 14/15	Lesson 15: CNS day 1
13	M/T	Nov 19/20	**Fall Break and Thanksgiving Holiday**
	W/Th	Nov 12/22	
14	M/T	Nov 26/27	Lesson 16: CNS day 2
	W/Th	Nov 28/29	Lesson 17: PNS
15	M/T	Dec 3/4	Lesson 18: Sensory Systems - Eye and Ear
	W/Th	Dec 5/6	Lesson 19: Reproductive and Urinary System
16	M/T	Dec 10/11	Review
	W/Th	Dec 12/13	**Practical Exam 4**

Attendance and Wait-listing in IPHY 3415

Human Anatomy Lab is one of the most popular and challenging courses in Arts and Sciences. Students from many different departments take this course, and this course is often repeated due its difficulty level. As such, many students find themselves on the wait list with many questions. The information below should handle most of these questions. For additional questions about registration, please contact the registrar. Please also read this carefully, as emails that can be answered from the information below are unlikely to receive a reply.

Students who do not abide by the attendance policies below may be dropped from the course. Students are responsible for knowing if they are enrolled, wait listed or not enrolled in the course.

1) Students must attend their enrolled section for the first two weeks of class, or they may be dropped. Attending a waitlisted section will not save your spot in your enrolled lab.
2) Students who are not enrolled, but who are wait listing multiple sections must attend **only one** of their wait listed sections, and must notify the TAs of other wait listed sections to remain on those wait lists.
3) Enrolled students may not attend any of their wait list sections, but should contact the TA of those sections to remain on the wait list.
4) The enrollment per section is capped at 16 students and **will not be changed**. The enrollment limit is not based on the number of chairs available, but on cadaver, model and human resources.
5) Students that wish to be automatically enrolled from a wait list, and simultaneously dropped from an enrolled section must select this option via a checkbox during registration.
6) Students that drop from the wait list will not be enrolled. Students that remain on the wait list have some chance of being enrolled. Beyond this, more precise predictions are impossible.
7) Your TA and the lab coordinator have **no control** over the ordering of the wait list. We cannot change a student's wait list position, or increase the number of positions available on the wait list. The wait list order is not based on when a student adds to the wait list, but instead on student major, the number of credits taken, and possibly other factors deemed relevant by the college of Arts and Sciences.
8) After the third week of class, students that are not enrolled cannot attend or take exams.
9) Students are responsibility for knowing all registration deadlines. Please check with the registrar for these dates rather than ask your TA, or the lab coordinator.
10) TAs and Instructor's will not check the availability of other sections for students. During the first two weeks of class, students have access to the same information that TAs and faculty do through their registration portal.

IMPORTANT: Please follow the instructions below very carefully. If you experience technical problems accessing Mastering A&P, please do NOT email your TA, the lab coordinator or Pearson's help desk for assistance until you have gone through the steps below.

1) Disable any pop-up blockers on your web browser. For instructions on how to do this, see: https://247pearsoned.custhelp.com/app/answers/detail/a_id/7834/kw/pop up blockers
2) Clear web browser's cache and cookies (may or may not be necessary). Instructions for most browsers are here: https://247pearsoned.custhelp.com/app/answers/detail/a_id/221/kw/clear cookies and cache
3) Login to Canvas, choose the current semester and navigate to our Human Anatomy Laboratory course
4) From the menu on the left, choose "MyLab and Mastering", then click on "Open Mylab & Mastering"
5) Follow the instructions to enroll in our MyLab and Mastering course. You will need an access code which can purchase during enrollment, or which you may have already acquired from a new text book purchase (Marieb, Human Anatomy, 8th edition) or from the Inclusive Access program which for $77 gives students access to MyLab and Mastering in addition to an online version of the Human Anatomy text book required for the IPHY 3410 (Human Anatomy Lecture). Students do NOT need a course id to enroll in MyLab and Mastering. Access to this resource must occur through the Canvas link. Students that login to Pearson from outside of Canvas will be prompted for a course ID and will be unable to access our course.

SPECIAL CASES

Retaking Anatomy and already purchased Mastering A&P?

You do not need to purchase an additional code. If you've registered for a MyLab and Mastering A&P course in CANVAS, with an 8th edition code, please see Section II of this link for instructions on registering through a new CANVAS course: https://247pearsoned.custhelp.com/app/answers/detail/a_id/11891/kw/Canvas%20registration. If you've previously registered for a Mastering Anatomy course with a 7th edition code, you will need to have your account updated to the 8th edition. Please email erin.daubenmire@pearson.com with your mastering login name and/or email address, along with the details of when you purchased the code. She will help you gain access.

Ordered text book online and it hasn't arrived yet?

Gain free access for 14 days via the link at the bottom of Pearson's registration page. When your text book arrives, go to your CANVAS course and click on the grey text that reads "Pearson Mylabs and Mastering", then click on Mastering Course Home, then click MyCourses in the upper left, then on Pay or use an access code and follow instructions accordingly.

Temporary Access is expired, or will expire soon?

The following link has instructions for converting temporary accounts to permanent accounts, without losing credit for quizzes already taken: http://247pearsoned.custhelp.com/app/answers/detail/a_id/11715

Don't own a book, or purchased a used book with a used code?

Follow the prompts online during registration and purchase a code. Be sure to purchase a code for Human Anatomy, 8th edition by Marieb, Wilhelm and Mallat.

On the waitlist and don't want to spend money on a course you may not get into?

Waitlisted students can gain free access for 14 days via the link at the bottom of Pearson's registration page. Please also see Pearson's return policy (14 days) below.

Still having trouble registering?

Most problems are solved by one or more of the steps below:

1) Clearing your web browser's cache and cookies. The link below has instructions for most browsers: https://247pearsoned.custhelp.com/app/answers/detail/a_id/221/kw/clear cookies and cache
2) Disabled pop-up blockers: https://247pearsoned.custhelp.com/app/answers/detail/a_id/7834/kw/pop up blockers
3) Do not attempt to access Mastering A&P from anywhere other than through the course CANVAS home page.

Please contact the Pearson Help Desk (see below) if you still have problems.

Mastering A&P Return Policy (Wait listed students, please read!)
Any student with a new book from the bookstore or Pearson direct will have an access code that is good for the life of the edition. If a student drops and subsequently reenrolls at any point in the future, their code will still be valid, if the textbook edition is still current. If a student purchases a used book without a code, or with an expired code, they can purchase access to Mastering A&P when registering.

Lastly, the textbook publisher (Pearson) has a 14-day return policy on Mastering, when purchased online from the method described above. For any waitlisted student, this may be a great option and in this case, they would most likely want to purchase an access code with the eText.

Pearson Help Desk & Technical Representative
For all registration and technical problems please contact:

1) Pearson's 24-hour technical help desk via the internet of phone
   http://247pearsoned.custhelp.com
   844-292-7017
2) Pearson's representative to CU, Erin Daubenmire: erin.daubenmire@pearson.com.

Section Assignments – FALL 2018

	N268		N276	
	Mon/Wed	Tue/Thur	Mon/Wed	Tue/Thur
8 - 9:50	001 TA: Tyler Akonom UGTA: Samantha Schilling	012 TA: Kelsey Loupy UGTA: Brandon Marquart		
10 - 11:50	003 TA: Taylor Teske UGTA: Alec McCranie	013 TA: Kelsey Loupy UGTA: Ryan Gray	004 TA: Aimee Thomas UGTA: Eric McCarty	014 TA: Christine Cho UGTA: Tyler Hazel
12 - 1:50	005 TA: James Hassell UGTA: Attila Suto	015 TA: Tyler Akonom UGTA: Sam Gendelman	006 TA: Amanda Alvarado UGTA: Caroline Soper	016 TA: Christine Cho UGTA: Jerilyn Simons
2 - 3:50	007 TA: James Hassell UGTA: Desiree DeAngelo	017 TA: Anthony Martillotti UGTA: Christopher Black	008 TA: Amanda Alvarado UGTA: Jade DeBoer	018 TA: Mathew Arnold UGTA: Isaac Miller
4 - 5:50	009 TA: Taylor Teske UGTA: Emilee Gower	019 TA: Anthony Martillotti UGTA: Katharine Scanlon	010 TA: Aimee Thomas UGTA: Kathryn Makowski	020 TA: Mathew Arnold UGTA: Brianna Hormberg
6 - 7:50	011 TA: Abigail Casso UGTA: John Van Hecke			

Anatomy Program Contact List

Lab Coordinator

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DAILY LAB STRUCTURE

Class Organization: (1 - 2 min)
Class splits into group A and B

Part 1 - Mastering Pre-Assigned Learning Objective (~ 35 - min)
TA/UGTA orchestrated review of the pre-assigned material for each group. Students master the material assigned to their group.

Part 2 - Reciprocal Teaching (~ 45 - min)
Students from different groups form partners and teach each other the material they've mastered, switching roles about half way through part 2.

Part 3 - TA/UGTA lead review tours (~ 10 min)
Students return to their groups for TA/UGTA guided review of the material learned in part 2. TAs and UGTAs identify and pronouncing all structures, providing a thorough "quality control" tour.

Part 4 – Switch classrooms for TA/UGTA-lead cadaver tours (~20 min)

Part 4 - Clean up! (~ 1 minute)

Exam 1 Lesson Assignments

Class Preparation: For every day of new material, students should watch the corresponding lesson video on CANVAS, review the lab models on the course web page, http://www.colorado.edu/intphys/iphy3415/models/, and take the corresponding quiz on Mastering A&P prior to class

Exam 1 Testable Material: Everything in laboratory 1 – 4 (pg. 1 – 45).

Additional Review:
1) Interactive images on course web page, http://www.colorado.edu/intphys/iphy3415/models/.
2) A non-graded practice quiz is available on Mastering A&P.
3) The IPHY club often holds review sessions prior to exams. Ask your TA for details.

LESSON 1 Appendicular Skeleton Day 1 (Pectoral Girdle & Upper limb)

Group A — Lab manual, pg. 34 – 36, Part A *Pectoral Girdle* through Part B.1 *Humerus (*proximal end and shaft*)*
Pal 3.1 Human Cadaver> Appendicular Skeleton > Pectoral Girdle: 1 – 11 & Upper limb: 1-2, 4-6, 8

Group B — Lab manual, pg. 36 – 38, Part B.1 *Humerus* (distal end) through Part C.3 *Hand*
Pal 3.1 Human Cadaver> Appendicular Skeleton > Upper limb: 1, 3-5, 7-27

LESSON 2 Appendicular Skeleton Day 2 (Pelvic Girdle & Lower limb)

Group A — Lab manual, pg. 39 - 41: Part D Pelvic Girdle
Pal 3.1 Human Cadaver> Appendicular Skeleton > Pelvic Girdle: 1 – 7, 10 – 15

Group B — Lab manual, pg. 42 - 44: Part E and F Lower limb and Foot
PAL 3.1 Human Cadaver> Appendicular Skeleton > Lower limb: 1 - 34

LESSON 3 Axial Skeleton Day 1 (The skull)

Group A — Lab manual, pg. 18 - 19. A, Part 1 (cranium)
Pal 3.1 Human Cadaver: Axial Skeleton > Skull: 1 – 12 and 16 – 35. (slides show features from both groups)

Group B — Lab manual, pg. 19. A, Part 2, 3 (facial bones, skull characteristics and features)

LESSON 4 Axial Skeleton Day 2 (The spinal column, sacrum, coccyx and ribs)

Group A — Lab manual, pg. 26 - 28 Part B.1 - B.3 - cervical and thoracic vertebrae
Pal 3.1 Human Cadaver: Axial Skeleton > Vertebral Column: 1 – 12, 19

Group B — Lab manual, pg. 26 - 29, Parts B.1, and B.4 – B.6 - lumbar vertebrae through coccyx, Part C. 1 – 3 Thorax
Pal 3.1 Human Cadaver: Axial Skeleton > Vertebral Colum:n 1, 2, 13 – 15, 22 – 24 and Thoracic Cage: 1 - 5

Review Day

No new material or quiz for review day. Your TA may setup a very short (5 – 10 questions) practice practical in class.

Exam 2 Lesson Assignments

TESTABLE MATERIAL: Everything in laboratory 4 and 5 (pg 47 - 78), except for the muscle actions and movement material in laboratory 5. Actions and movement will be tested in a separate quiz after exam 2.

CLASS PREPARATION: As before, watch the videos on CANVAS, review the assigned material in the lab manual and Pal 3.1, and complete the quizzes on Mastering A&P in advance of class. Specific class assignments are listed below:

LESSON 5 Anterior muscles, day 1

Group A
Lab Manual: pg. 54 – 55, Lab 5 Part A – B (ANTERIOR ARM and POSTERIOR FOREARM/HAND)
Pal 3.1 Human Cadaver>Muscular System>Upper limb: 14-16, 23-25, 34
Pal 3.1 Anatomical Models>Muscular System>Upper limb: 1, 4-5, 7

Group B
Lab Manual: pg. 56 – 57, Lab 5 Part C - E (ANTERIOR THIGH thru ANTERIOR LEG)
Pal 3.1 Human Cadaver>Muscular System>Lower limb: 16-17, 26-27, 44, 48
Anatomical Models>Muscular System>Lower limb: 1-2, 5, 9, 11

LESSON 6 Anterior muscles, day 2

Group A
Lab Manual: pg. 58 – 59, Lab 5, Part F – J (SCALP MUSCLES thru SUPRAHYOID MUSCLES)
Pal 3.1 Human Cadaver>Muscular System>Head & Neck: 1-6
Pal 3.1 Anatomical Models>Muscular System>Head & Neck: 1, 3-5, 8

Group B
Lab Manual: pg. 60 – 61, Lab 5 Part K - N (INFRAHYOID MUSCLES thru ABDOMINAL WALL)
Pal 3.1 Human Cadaver>Muscular System>Head & Neck: 23-27, Trunk: 1-3
Pal 3.1 Anatomical Models>Muscular System>Head & Neck: 1-2, Trunk: 1-2, 5

LESSON 7 Posterior muscles, day 1

Group A
Lab Manual: pg. 62 – 63, Lab 5, Section 0 – Q, POST. THORAX, through POST. NECK AND BACK
Pal 3.1 Human Cadaver>Muscular System>Head & Neck: 28-30, Trunk: 24-26, 33
Pal 3.1 Anatomical Models>Muscular System>Trunk: 3-4

Group B
Lab Manual: pg. 64 – 65, Lab 5, Sections R – part of T, POST. ARM through HAND thenar muscles
Pal 3.1 Human Cadaver>Muscular System>Upper limb: 18-22
Pal 3.1 Anatomical Models>Muscular System>Upper limb: 1-4

LESSON 8 Posterior muscles, Day 2

Group A
Lab Manual: Lab5, pg. 68 – 71, Section U – W, GLUTEAL REGION through POSTERIOR LEG
Pal 3.1 Human Cadaver>Muscular System>Lower limb: 22-24, 50-52, 55-56
Pal 3.1 Anatomical Models>Muscular System>Lower limb: 3-4, 8, 10, 12-13

Group B Lab manual pg. 66 – 67, Lab 5, Section T, ANTERIOR HAND
Lab Manual: pg. 72 – 73, Lab 5, Section X – Y, LATRAL LEG – FOOT)
Pal 3.1 Human Cadaver>Muscular System>Upper limb: 27-30 & Lower limb: 72-75
Pal 3.1 Anatomical Models>Muscular System>Upper limb: 6, 8-9 & Lower limb: 10-11, 13

LESSON 9 Articulations, Origins, Insertions, Movement & Actions

Group A & B Study Muscle Origins and Insertions and Actions throughout lab 5 and movements on pg 74 – 78

Review Day

No new material or quiz for review day. Your TA may setup a very short (5 – 10 questions) practice practical in class.

ADDITIONAL REVIEW:

1) Interactive images on course web page, http://www.colorado.edu/intphys/iphy3415/models/.
2) A non-graded practice quiz is available on Mastering A&P.
3) The IPHY club often holds review sessions prior to exams. Ask your TA for details

Exam 3 Lesson Assignments

TESTABLE MATERIAL: Everything in lab 6 – 8 (pg. 79 – 108).

CLASS PREPARATION: As before, watch the videos on CANVAS, review the assigned material in the lab manual and Pal 3.1, and complete the quizzes on Mastering A&P in advance of class. Specific class assignments are listed below:

LESSON 10: Respiratory and Digestive Systems

Group A
Lab Manual: Respiratory System, lab 6, pg. 79 – 85
Pal 3.1 Human Cadaver>Respiratory System: 1-8, 10, 13
Pal 3.1 Anatomical Models>Respiratory System: 1-8

Group B
Lab Manual: Digestive System, lab 7, pg 87 – 93
Pal 3.1 Human Cadaver>Digestive System 1-9, 11-16, 20
Pal 3.1 Anatomical Models>Digestive System 1-9, 11

Lesson 11: The Heart

Group A
Lab Manual Pg. 95 – 98, The Heart, Parts A, C, D
Pal 3.1 Human Cadaver>Cardiovascular>Heart: 1-3, 6, 12-14
Pal 3.1 Anatomical Models>Cardiovascular>Heart: 1, 5, 8, 10

Group B:
Lab Manual Pg. 96 – 98, The Heart, Parts E and F
Pal 3.1 Human Cadaver>Cardiovascular>Heart: 3-4, 7-11
Pal 3.1 Anatomical Models>Cardiovascular>Heart: 2, 6, 8-10

Lesson 12: Arteries: day 1

Group A
Lab Manual Pg. 99. Lab 8, part II, Part A – Head and neck arteries
Pal 3.1 Human Cadaver>Cardiovascular>Blood vessels: 3, 12, 14-15, 30-32
Pal 3.1 Anatomical Models>Cardiovascular>Arteries: 4, 9

Group B
Lab Manual Pg. 99 - 101. Lab 8, part II, Part B Upper limb arteries and Part F. Lower limb arteries.
Pal 3.1 Human Cadaver>Cardiovascular>Blood vessels: 29-32, 36-37, 42-43
Pal 3.1 Anatomical Models>Cardiovascular>Arteries: 15-16, 18-19

Lesson 13: Arteries: day 2

Group A
Lab Manual Pg. 100, Lab 8, part C, Thoracic arteries, part D1a. celiac trunk
Pal 3.1 Human Cadaver>Cardiovascular>Blood vessels: 16, 20-23
Pal 3.1 Anatomical Models>Cardiovascular>Arteries: 8-9, 11, 13

Group B
Lab Manual Pg. 100, Lab 8, part D1b superior mesenteric artery through part E, Pelvic arteries.
Pal 3.1 Human Cadaver>Cardiovascular>Blood vessels: 19-20, 22-23
Pal 3.1 Anatomical Models>Cardiovascular>Arteries: 10-11, 13-14

Lesson 14: Veins

Group A
Lab Manual Pg. 104, Parts A, B, C, Head and neck veins through Thoracic veins.
Pal 3.1 Human Cadaver>Cardiovascular>Blood vessels: 2, 13, 16, 17, 26-28, 30
Pal 3.1 Anatomical Models>Cardiovascular>Veins: 5, 9-12, 14

Group B
Lab Manual Pg. 104, Parts D & E. Abdominal veins through lower limb veins.
Pal 3.1 Human Cadaver>Cardiovascular>Blood vessels: 19-20, 23, 33, 37-38
Pal 3.1 Anatomical Models>Cardiovascular>Veins: 7, 9, 13, 15, 18

Additional Review:

1) Interactive images on course web page, http://www.colorado.edu/intphys/iphy3415/models/.
2) A non-graded practice quiz is available on Mastering A&P.
3) The IPHY club often holds review sessions prior to exams. Ask your TA for details.

Exam 4 Lesson Assignments

TESTABLE MATERIAL: Everything in lab 9 - 11 (pg. 109 – 138).

CLASS PREPARATION: As before, watch the videos on CANVAS, review the assigned material in the lab manual and Pal 3.1, and complete the quizzes on Mastering A&P in advance of class. Specific class assignments are listed below:

LESSON 15 Central Nervous System: day 1

Group A
Lab Manual Pg. 109-110, Part II. section A.1. cerebrum, parts a – h
Pal 3.1 Human Cadaver>Nervous System>CNS: 21-23, 35, 37-38, 40-41
Pal 3.1 Anatomical Models>Nervous System>CNS: 1-3, 8

Group B
Lab Manual Pg. 110, part 2 through part 3a. diencephalon through midbrain.
Pal 3.1 Human Cadaver>Nervous System>CNS: 27-29, 31, 31-34
Pal 3.1 Anatomical Models>Nervous System>CNS: 3-5, 7-9, 12-14

LESSON 16 Central Nervous System: day 2

Group A
Lab Manual Pg. 110 - 113, part 3b, pons, through part 6, fluid cushion
Pal 3.1 Human Cadaver>Nervous System>CNS: 21, 25, 27, 29, 30-31, 36
Pal 3.1 Anatomical Models>Nervous System>CNS: 4-5, 7

Group B
Lab Manual Pg. 114 – 117, part 7, blood supply, through B. spinal cord
Pal 3.1 Human Cadaver>Nervous System>CNS: 4, 7-8, 16, 26, 42-43
Pal 3.1 Anatomical Models>Nervous System>CNS: 2, 16-18

LESSON 17 Peripheral Nervous System

Group A
Lab Manual Pg.118 - 119, Cranial nerves, Pg 120 – 122 spinal nerves & sacral plexus only (not C1, C2 and C3)
Pal 3.1 Human Cadaver>Muscular System>Trunk: 21
Pal 3.1 Anatomical Models>Nervous System>PNS: 1-3, 9

Group B
Lab Manual Pg.120 – 122, Parts C1 – C3, cervical, brachial & lumbar plexus
Pal 3.1 Human Cadaver>Nervous System>PNS: 8-11
Pal 3.1 Anatomical Models>Nervous System>PNS: 4, 6-8

LESSON 18 Special Senses: Eye & Ear

Group A
Lab Manual Pg. 127, Part I, Ear
Pal 3.1 Human Cadaver>Nervous System>Special Senses: 12-17
Pal 3.1 Anatomical Models>Nervous System>Special Senses: 9-11

Group B
Lab Manual Pg.127 - 128, Part II, Eye
Pal 3.1 Human Cadaver>Nervous System>Special Senses: 6, 8-11
Pal 3.1 Anatomical Models>Nervous System>Special Senses: 1-8

LESSON 19 Reproductive & Urinary Systems

Group A
Lab Manual Pg 133, Male reproductive and Pg 134, Part II, B and C1. Urinary
Pal 3.1 Human Cadaver>Reproductive System: 1-8, Urinary System: 5-7
Pal 3.1 Anatomical Models>Reproductive System: 1-4, Urinary System: 10-14

Group B
Lab Manual Pg 133, Female reproductive and Pg 134, Part II. A, Kidney and C2. urinary
Pal 3.1 Human Cadaver>Reproductive System: 9-11, Urinary System: 1-4
Pal 3.1 Anatomical Models>Reproductive System: 5-9, Urinary System: 1-2, 5

Additional Review:

1) Interactive images on course web page, http://www.colorado.edu/intphys/iphy3415/models/.
2) A non-graded practice quiz is available on Mastering A&P.
3) The IPHY club often holds review sessions prior to exams. Ask your TA for details.

Extra Credit OIA material 2 Extra credit questions (4 points) on the OIA material below may appear on the 3rd exam. The OIA material below is otherwise NOT testable.

B. POSTERIOR FOREARM AND HAND

extensor carpi radialis longus (*O: l. supracondylar ridge I: 2nd metacarpal A: extends, abducts hand)*

extensor carpi radialis brevis (*O: l. supracondylar ridge I :3rd metacarpal A :extends, abducts hand)*

extensor digitorum (*O: l. epicondyle I: distal phalanges 2 – 5 A: extends hand and digits 2-5*)

extensor carpi ulnaris (*O:l. epicondyle I: 5th metacarpal A: extends, adducts hand*)

supinator (*O: l. epicondyle I:radius A:supination*)

abductor pollicis longus (*O:radius, ulna I:1st metacarpal, trapezium A:abducts, extends thumb*)

extensor pollicis longus *(O:ulna & interosseous membrane I:distal phalanx A:extends thumb)*

extensor pollicis brevis (*O:radius, ulna I:proximal phalanx of thumb A:extends thumb*)

extensor indicis (*O:ulna I:extensor expansion of index finger A:extends index finger)*

extensor digiti minimi (*O:l. epicondyle of humerus I:5th proximal phalanx A:extends 5th digit*)

anconeus (*O:l. epicondyle of humerus I:olecranon A:abducts ulna during forearm pronation, extends forearm*)

extensor retinaculum – thickened fascia of posterior wrist that guides and anchors tendons

dorsal interossei (*O:metacarpals I:extensor expansions 2 – 5 A:abduct & flex p. phalanges, extend d. phalanges)*

F. SCALP MUSCLE

Epicranius

frontal belly (*O: epicranial aponeurosis. I: skin of eyebrows. A: raises eyebrows*)

occipital belly (*O: occipital & temporal bones. I: epicranial aponeurosis. A: raises eyebrows*)

G. FACIAL EXPRESSION

zygomaticus major (*O: zygomatic bone. I: skin & muscles at corners of mouth. A: smiling*)

zygomaticus minor (*O: zygomatic bone. I: skin & muscles at corners of mouth. A: smiling*)

buccinator (*O: maxilla and mandible. I: orbicularis oris. A: compresses check as in whistling and suckling*)

orbicularis oculi (*O: frontal & maxillary bones. I: eyelid. A: closes eye*)

orbicularis oris (*O: other facial muscles. I: skin & muscles at corners of mouth. A: purses & protrudes lips*)

platysma *(O: fascia of chest I:mandible A:depresses mandible and lower lip)*

H. MUSCLES OF MASTICATION
masseter – (*O: zygomatic arch and bone. I: angle & ramus of mandible. A: elevates mandible)*

temporalis – (*O: temporal fossa. I: coronoid process of mandible. A: elevates, retracts mandible)*

I. EXTRINSIC TONGUE
genioglossus (*O: mandible. I: tongue and hyoid bone. A: protracts tongue)*

J. SUPRAHYOID MUSCLES
geniohyoid (*O: mandible. I: hyoid bone. A: elevates and protracts hyoid during swallowing)*

digastric
anterior belly (*O: mandible. I: hyoid bone. A: depresses mandible, elevates hyoid bone*)

posterior belly (*O: mastoid process. I: hyoid bone. A: depresses mandible, elevates hyoid bone)*

mylohyoid (*O: mandible. I: hyoid bone. A: elevates hyoid and floor of mouth)*

stylohyoid (*O: styloid process. I: hyoid bone. A: elevates and retracts hyoid)*

K. INFRAHYOID MUSCLES
sternothyroid *(O:manubrium I: thyroid cartilage A:depresses larynx & hyoid bone)*

sternohyoid (*O: manubrium. I: hyoid bone. A: depresses hyoid & larynx.*)

thyrohyoid *(O:thyroid cartilage I:hyoid bone A:depresses hyoid bone OR elevates larynx if hyoid fixed)*

omohyoid
superior belly (*O: s. border of scapula via inf. belly of omohyoid. I: hyoid bone. A: depresses, retracts hyoid.*)

inferior belly (O: *s. border of scapula I: hyoid bone via s. belly of omohyoid A: depresses, retracts hyoid)*

L. ANTEROLATERAL NECK

sternocleidomastoid (*O: manubrium, clavicle I: mastoid p., s. nuchal line A: flexes, laterally rotates head)*

scalenes

anterior, middle, posterior (*O: transverse processes I: ribs 1,2 A: elevate ribs, flex and rotate the neck*)

M. ANTERIOR THORACIC WALL

external intercostals (*O: inferior border of rib above. I: superior border of rib below. A: elevates rib cage)*

internal intercostals (*O: superior border of rib below. I: inferior border of rib above. A: depresses rib cage)*

N. ABDOMINAL WALL

external oblique (*O: lower ribs. I: linea alba, pubic crest & tubercle, iliac crest. A: together flex and compress abdomen, unilaterally rotate and laterally flex trunk.*)

internal oblique (*O: lumbar fascia, iliac crest, inguinal ligament. I: linea alba, pubic crest, inferior ribs & costal margins, A: as for external oblique.*)

rectus abdominis (*O: pubic crest and symphysis. I: xiphoid process and costal cartilages. A: flex and rotate lumbar region, fix and depress ribs, stabilize pelvis during walking.)*

transversus abdominis (*O: inguinal ligament, lumbar fascia, lower costal cartilages, iliac crest. I: linea alba, pubic crest. A: compresses abdominal contents.*)

Q. POSTERIOR NECK AND BACK

splenius capitis *(O: spinous p ($C_7 – T_6$) I: mastoid p, occipital bone, transverse ($C_2 – C_4$) A: extends head, rotate and laterally bend head to same side*

semispinalis capitis *(O: transverse p. ($C_7 – T_{12}$) I: occipital bone, spinous p. ($C_1 – T_4$) A: extends head and vertebral column, rotates head and vertebral column to opposite side)*

iliocostalis *(O: iliac crests, ribs I: angles of ribs, transverse p. ($C_4 – C_6$) A: extend, laterally flex v. column)*

longissimus *(O: transverse p. all vertebrae I: transverse p. and ribs superior to origins, mastoid p. A: extend and laterally flex v. column and head.)*

spinalis *(O: lower v. spines I: upper v. spines A: extends v. column)*

erector spinae

S. ANTERIOR FOREARM

flexor carpi radialis *(O:m. epicondyle I:metacarpals 2 - 3 A:flexes, abducts hand)*

palmaris longus *(O:m. epicondyle I:palmar aponeurosis A:flexes hand)*

flexor carpi ulnaris *(O:m. epicondyle, olecranon p. shaft of ulna I:pisiform, hamate, 5th metacarpal A:flexes, adducts hand)*

flexor digitorum superficialis *(O:m. epicondyle I:middle phalanges 2-5 A:flexes hand, flexes middle phlanges)*

flexor digitorum profundus *(O:ulna shaft & i.o. membrane I:distal phalanges 2-4 A:flexes distal phalanges)*

flexor pollicis longus *(O: radius shaft & i.o. membrane I:1st distal phalanx A:flexes 1st distal phalanx)*

pronator teres *(O:m. epicondyle, coronoid p. I:radius shaft A:pronates forearm)*

pronator quadratus *(O:ulna shaft I:radius shaft A: pronates forearm)*

flexor retinaculum – A thick band of deep fascia that prevents flexor tendons from bowing out at the wrist.

T. ANTERIOR HAND

hypothenar muscles

adductor pollicis brevis *(O:flexor retincalum, scaphoid I:1st proximal phalanx A:abducts thumb)*

flexor pollicis brevis *(O:flexor retinaculum, trapezium I:1st proximal phalanx A:flexes thumb)*

opponens pollicis *(O:flexor retinaculum, trapezium I:1st metacarpal A:opposition of thumb)*

adductor pollicis *(O:capitate, metacarpals 2-4 I:1st proximal phalanx A:adducts thumb)*

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abductor digiti minimi *(O:pisiform I: 5th proximal phalanx A: abducts 5th digit)*

flexor digiti minimi brevis *(O:flexor retinaculum, hamate I:5th proximal phalanx A:flexes 5th proximal phalanx*

opponens digiti minimi *(O:flexor retinaculum, hamate I:5th metacarpal A:opposition of pinky with thumb)*

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lumbricals *(O:tendons of flexor digitorum profundus I:extensor expansions 2-5 A:flex proximal phalanges, extend distal phalanges)*

palmar interossei *(O: metacarpals I:proximal phalanges A:Adduct and flex proximal phalanges, extend distal phalanges)*

dorsal interossei *(O:metacarpals I:proximal phalanges A:Abduct and flex proximal phalanges, extend distal phalanges)*

Y. FOOT – DORSUM

extensor digitorum brevis *(O: calcaneus, e. retinaculum I: 1st proximal phalanx, e. expansions 2-5 A: extends toes)*

Z. FOOT – PLANTAR SURFACE

flexor digitorum brevis *(O:calcaneal tuberosity I:middle phalanges 2-5 A:flexes toes)*

adductor hallucis *(O:calcaneal tuberosity I:1st proximal phalanx A:abducts great toe)*

abductor digiti minimi *(O:calcaneal tuberosity I:1st proximal phalanx base A:abducts & flexes little toe)*

flexor accessorius *(O:calcaneus I:tendon of flexor digitorum longus A:straightens out pull of f.d.longus)*

lumbricals *(O:tendons of f.d.longus I:extensor expansions 2-5 A:flex proximal and extends distal phalanges)*

flexor hallucis brevis *(O:lateral cuneiform, cuboid I:1st proximal phalanx A:flexes great toe)*

adductor hallucis *(O:base of metatarsals 2-4 I:1st proximal phalanx A:maintains transverse arch of foot, week adductor of great toe)*

flexor digiti minimi brevis *(O:base of 5th metatarsal I:5th proximal phalanx A:flexes little toe)*

interosseous muscles *(O:metatarsals I:extensor expansions A:adduct and abduct toes)*

Approved Abbreviations for Anatomy Lab Exams

All common English words and directional terms can be abbreviated on exams. Students should always answer questions to the highest level of specificity presented in the lab manual. Please note that full answers, without abbreviations, must be used in Mastering A and P.

Accepted Abbreviations for Vessel Names:

anterior	a or ant
posterior	p or post
ascending	a or asc (always at beginning of name to distinguish from artery)
descending	d or des (always at beginning of name to distinguish from duct)
medial	m
lateral	l
superior	s
inferior	inf
internal	int
external	e
right	r
left	l (could also be lateral, but we'll give you the benefit of the doubt)
branch	b
trunk	t
artery	a (always at the end of a name to distinguish from anterior and ascending)
vein	v
duct	d

Examples

1) "anterior superior iliac spine" → "ant. post. iliac spine" or "a. p. iliac spine"

2) "superior orbital fissure" → "s. orbital fissure"

3) "posterior humeral circumflex artery" → "p. humeral circumflex a."