



## **Course Syllabus Fall Semester 2023**

**Dr. Jon Groot, PhD**

**jon.groot@biology.utah.edu**

**Office: Building 044 Room 215**

**If you need to contact me, use the email address above and I will get back to you within 48 hours Monday through Friday. I cannot make the same guarantee on the weekend.**

**This is an On-campus course at the assigned lecture times:**

**Biol 2325-001 - 9:40 to 10:30 am Monday through Thursday in ASB 220**

**Biol 2325-014 - 11:50 am to 12:40 am Monday through Thursday in JTB 310**

**The lectures and labs will not be recorded. You are responsible to be at lecture and lab to get the information that will be taught in the course and that you will be responsible for on exams.**

**The lab is a part of the course and not a separate entity. YOU MUST ATTEND THE LAB AT YOUR ASSIGNED TIME, AS THERE WILL BE A WEEKLY QUIZ AT THE BEGINNING OF EACH LAB. IF YOU MISS THE QUIZ YOU MISS OUT ON THE POINTS, NO EXCEPTIONS. KNOW YOUR LAB DAY AND TIME AND MAKE SURE TO BE ON TIME.**

### **Monday Labs**

**Section 002 & 015: 12:55 - 2:40 pm**

**Section 003 & 016: 2:50 - 4:35 pm**

**Section 004 & 017: 4:45 - 6:30 pm**

**Section 005 & 018: 6:40 - 8:25 pm**

### **Tuesday Labs**

**Section 006 & 019: 12:55 - 2:40 pm**

**Section 007 & 020: 2:50 - 4:35 pm**

**Section 008 & 021: 4:45 - 6:30 pm**

**Section 009 & 022: 6:40 - 8:25 pm**

### **Wednesday Labs**

**Section 010 & 023: 12:55 - 2:40 pm**

**Section 011 & 024: 2:50 - 4:35 pm**

**Section 012 & 025: 4:45 - 6:30 pm**

**Section 013 & 026: 6:40 - 8:25 pm**

**The first assignment in class is to read the syllabus in its entirety. Everything you need to know regarding the administration of the course, with its attendant expectations, schedules, assignments, exams, materials, grading, etc., is presented in this document. Please note that I may modify it with reasonable notice to you, changes will be announced in class and posted on Canvas.**



## EXPECTED LEARNING OUTCOMES

The undergraduate Biology programs at the University of Utah provide students the knowledge base, skills, and resources needed to prepare them for careers in the Biological Sciences, or for enrollment and success in post-graduate education opportunities in numerous graduate or professional schools

such as, biology, medicine, dental, veterinary, pharmacy, nursing, physical therapy, occupational therapy, and physician assistant programs. Within the department of biology, the human anatomy course is specifically designed to serve the needs of students in biology, and from many other departments on campus, as they prepare for futures in medical, dental, allied health, kinesiology, and athletic training careers. In fact, it is designed for the educated person who is interested in becoming more knowledgeable about their most important possession — their own body.

## LEARNING OUTCOMES

- **Structure and Function**

Students will be able to think critically about structure-function relationships as they build a strong foundation knowledge of the structure of the human body and learn to analyze the functions associated with this structure.

- **Developmental and Evolutionary Patterns**

Students will be able to apply developmental and evolutionary patterns to simplify the learning of anatomical structure and use these patterns to critically analyze the structure-function relationships of the human body.

- **Transmission, Flow, and Interpretation of Anatomical Information**

Students will be able to utilize the extensive language of anatomy to explain the important structural relationships and functional significance of the human body in biological and medical contexts.

- **Body Systems**

Students will be able to explain how the hierarchical organization of the human form, from cells, to tissues, to organs, to body systems account for the structural and functional features at all levels of organization and function in the human body.

- **Ability to Apply Scientific Reasoning**

Students will be able to apply critical thinking skills using the problem solving skills of science to diagnose and solve anatomical problems related to the structure and function of the human body.

- **Real World Application**

Students will not only be prepared to enter the medical, dental, allied healthcare, kinesiology, and athletic training professions with the critical knowledge base of one of the most important tools they can have in their toolbox — human anatomy, but they will be prepared to better communicate with healthcare professionals about their own body and health, and better understand their body as they deal with it on a daily basis for the remainder of their life.

# PHILOSOPHY STATEMENT

Hello and welcome. My name is Jon Groot and I want you to feel free to simply call me “Groot” when talking to me. If you would like to be a bit more formal and honor me as an educator then you are welcome to call me Dr. Groot (The term “doctor” comes from the Latin word *docere*, which means to teach, and I generally stay away from professing too much). Like you, I am just another person on this big planet, so don’t be afraid of me. Don’t be afraid to get to know me or to come and talk to me or ask me questions. Your experience in anatomy class this semester, as well as mine, will be a better one if you take this advice to heart.

I believe that a teacher is more than simply a fountain of knowledge at which the learner is encouraged to fill their cup. Many individuals can share their expertise, and yet never truly be a teacher. A teacher is someone that utilizes their knowledge and expertise in order to show others how to learn. A teacher is someone that engages others in thinking and problem solving in order to build self-efficacy to apply their knowledge to novel situations, facilitating the creation of new understanding. A teacher should be a positive force that creates a trusting and respectful classroom community that encourages questions and lived experiences, and fosters excitement in the practice of learning. Teaching, in and of itself, is a cyclical learning process that necessitates moments of investigation, integration, feedback, reflection, and refinement, continually looping back on itself in order to improve one’s own practice. Through this process, I have improved upon the teacher that I once was in pursuit of becoming the educator that I want to be.

For many years I have been passionate about anatomy, both as a perpetual student who is never satisfied with his knowledge and as an educator who wants to figure out the best ways to help people learn this exciting topic. If you are enrolled in this class because you want to learn, then my passion and experience should excite you. There are few things I enjoy more than watching people get excited about learning something new, especially if I can help in the learning process. I am committed to do my best to make this the best anatomy course that I possibly can.

I feel I should be up front with you regarding the important assumption that I make to guide my pursuit for excellence in teaching and designing a university level course. That is, I assume you are enrolled in this course **because you want to learn anatomy**. With that in mind, the course is designed for students who really want to learn. For the interested student, this course may be one of the most positive experiences in their college education. I am committed to do all that I can to not only teach you anatomy, but to teach you how to learn anatomy. I believe that an institution of higher education is a place where people come to learn and to expand their horizons. My course is designed to afford you that opportunity. If your mind is open to learning and you are willing to work hard, then you stand to gain an outstanding foundation in human anatomy.

I also believe that my efforts are only part of the education equation. When it comes right down to it, the bottom line

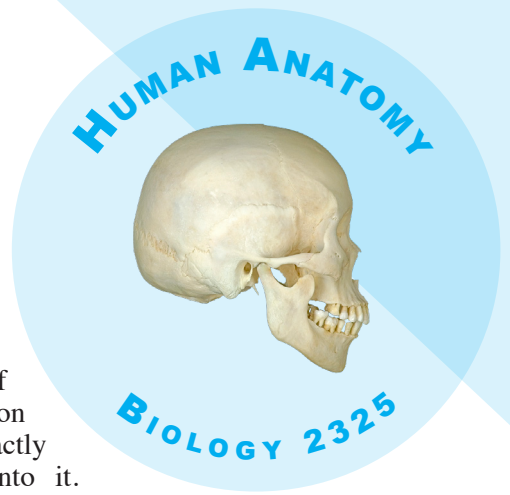
in your education is that it is ultimately up to you. That is, you will only get out of this course, and as a matter of fact any education opportunity, exactly what you put into it.

With this fact in mind, I encourage you to take ownership of your education by working hard, not making excuses, and doing your best. This kind of effort on both our parts will spell success.

With this philosophical preamble behind us, let me share a few additional insights. This course is designed to reward excellence and there is no limit to the number of students who can achieve excellence. I do not believe in a curve that puts a limit on the number of A grades. The course is not designed as a weed-out course and everyone enrolled can attain the grade of A. Historically, nearly half the students in the class perform above 80%, putting them in the A and B range. The students in these grade categories typically study on a daily basis, do not get behind, and do not try to predict what is important to learn, but instead learn everything they are taught. I make every effort to write exams that clearly cover the material that I teach and that evaluate whether or not the students can think and problem solve with the information they have acquired. I am not interested in tricking students, I am only interested in helping students, and myself, evaluate how much they have learned and to see whether or not they are good thinkers.

Now let me end by addressing a few final concerns. While I am honestly willing to help anyone learn this material, I cannot study it for you. I will help by answering any of your questions. I will help you understand the best learning strategies for success. I will help with encouragement along the way, if you but ask. But the bottom line is that you have to work hard and dedicate a daily effort to your anatomy studies if you want to learn the material, which will then lead to a good grade. Finally, I unfortunately can make no promises to those students who are not in the course for the right reasons. To those who assume they know what is important and what is not, or who are always second-guessing why they need to learn certain things, or who have a negative attitude, I am sorry. I cannot make promises to this type of student about their learning experience because I do not comprehend that attitude toward education.

The take home message is — this course will challenge you. But challenge is good! Isn’t that the reason we attend an institution of higher education; to challenge our intellect and increase our knowledge? This course will challenge you, but you can excel through hard work. For the motivated student, anatomy will be an excellent and fun learning opportunity.





## FORMULA FOR SUCCESS

The anatomy course requires a mature approach to learning; that is, it requires that you motivate yourself to study and learn the material being presented daily in lecture. One of the strongest words of advice I might share — **STUDY DAILY**. There are workbook exercises and homework questions that will serve as motivators to study daily, but you must take advantage of these resources. No one is forcing you to do them. If you follow the learning formula I have outlined you will meet with success. Here is the formula:

1. Attend lecture and focus on taking good notes and pay attention to what I am teaching you (**do not color in the lecture manual during lecture as you can do that after by reviewing the lecture presentations**). Use the lecture to fill in the necessary notes in your lecture manual and focus on the content being covered in lecture. If you struggle with note taking, you can audio record my lectures and listen to them again later.
2. After lecture (the sooner the better, while things are still fresh in your mind) review your notes and make sure they are complete. Rewrite them in complete sentences if need be. While doing this, study the lecture material and start committing it to memory.
3. Also, answer the homework assignment and remember to submit it before 11:00 pm each Friday. Use the assigned text from the textbook to help with the homework assignment questions. The assigned text will also help to reinforce the lecture information.
4. Next, take a break. Then later that day try to answer the exercises that parallel each lecture in the Workbook and Study Guide. Write out complete answers, as if you were taking a test. If you do this then the workbook will become a valuable study reference when you prepare for exams.
5. As you are answering the questions work hard to commit the knowledge in the lecture manual to memory. The exercises are designed to help you focus on important concepts and material covered in lecture.
6. Do these steps each day. Any time you have questions write them down on a piece of paper and attend the tutoring hours and get your questions cleared up.
7. Do this every day, and then on the weekend follow up

with the most important step. Review everything you learned during the week, but do it by verbalizing your knowledge. Have someone ask you questions and teach them by answering the questions. **Verbalizing** your knowledge is the most powerful way to impact long-term memory.

8. If you **honestly** follow these guidelines you can succeed in the course. In anatomy, each lecture will build on and borrow from previous lectures. For this reason, it is important to study each day. If you do so, you will build a knowledge base that will be reinforced and to which you can easily add new information. If you choose not to follow this approach, you will find yourself rapidly falling behind and not understanding the new material presented in lecture. Realize that **this is not a course for which you can easily “cram” a few days prior to the examination**. It is critical to stay current and not fall behind in your study.

One final tip, **come prepared to lab**. It will be a waste of your time and you will be cheating yourself if you come to lab unprepared. To prepare for lab you should do the following:

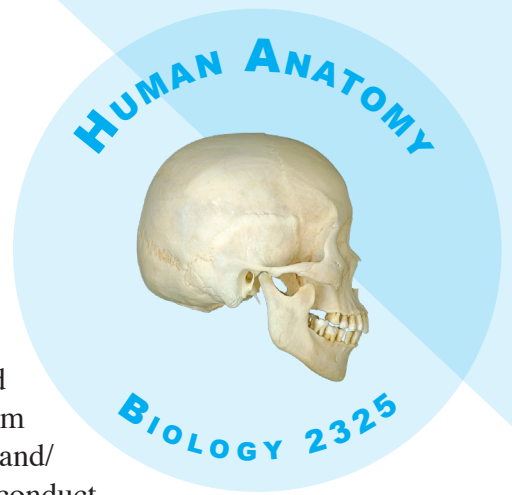
1. Study and understand the previous week's lecture material.
2. Study the assigned cadaver photos on the Human Anatomy Interactive Atlas (quizzes will motivate you to do this).
3. Attend lab with the intent of getting involved in the interactive learning environment.
4. Commit to make the most of your time spent in lab. Be active! Participate! Get your hands on! Take advantage of the excellent teaching assistants!
5. Take advantage of **Real Anatomy 2.0**, included with WileyPlus, to reinforce what you studied in the lab. This powerful program on the web provides you with full access to exploration of real cadaver anatomy unlike any software on the market. Use it as a review to reinforce what you learned in the lab.

### Opportunity

If you discover that you enjoy anatomy, you can continue your anatomy education by enrolling in Biology 5315 - Advanced Human Anatomy, Biology 3360 - Vertebrate Embryology, and Biology 3960 - Functional Musculoskeletal Anatomy. For the interested and motivated student, these classes will expand your understanding of anatomy.

# ACADEMIC CODE OF CONDUCT

Students are encouraged to review the Student Code for the University of Utah: <https://regulations.utah.edu/academics/6-400.php>. In order to ensure that the highest standards of academic conduct are promoted and supported at the University, students must adhere to generally accepted standards of academic honesty, including but not limited to refraining from cheating, plagiarizing, research misconduct, misrepresenting one's work, and/or inappropriately collaborating. A student who engages in academic misconduct as defined in Part I.B. may be subject to academic sanctions including but not limited to a grade reduction, failing grade, probation, suspension or dismissal from the program or the University, or revocation of the student's degree or certificate. Sanctions may also include community service, a written reprimand, and/or a written statement of misconduct that can be put into an appropriate record maintained for purposes of the profession or discipline for which the student is preparing. Incidents of academic dishonesty on homework assignments will result in a minimum penalty of a full letter-grade reduction and up to a failing grade (E) for the course. Incidents of academic dishonesty on exams will result in a minimum penalty of a failing grade (E) for the course, and the incident(s) will be referred to the dean of your major-department college for possible further sanction.



## INCLUSIVITY STATEMENT

It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit. It is my intent to present materials and activities that are respectful of diversity: age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, culture, religion, sexual orientation, and veteran status, and other unique identities. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally or for other students or student groups. In addition, if any of our class meetings conflict with your religious events, please let me know so that we can make arrangements for you.

## NAMES/PRONOUNS

Canvas allows students to change the name that is displayed AND allows them to add their pronouns to their Canvas name. Class rosters are provided to the instructor with the student's legal name as well as "Preferred first name" (if previously entered by you in the Student Profile section of your CIS account, which can be managed at any time). While CIS refers to this as merely a preference, I will honor you by referring to you with the name and pronoun that feels best for you in class or on assignments. Please advise me of any name or pronoun changes so I can help create a learning environment in which you, your name, and your pronoun are respected. If you need any assistance or support, please reach out to the LGBT Resource Center. [https://lgbt.utah.edu/campus/faculty\\_resources.php](https://lgbt.utah.edu/campus/faculty_resources.php)

# HUMAN ANATOMY



BIOLOGY 2325

## MISCELLANEOUS IMPORTANT INFORMATION

The following information provides students with a variety of important resources and facts about the course and the university in general:

### Students with Disabilities (ADA Statement)

The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, (801) 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services.

### University Safety Statement

The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585--COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit [safeu.utah.edu](http://safeu.utah.edu).

### Addressing Sexual Misconduct

Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801- 581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585- 2677(COPS).

### Wellness Statement

Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student's ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness at [www.wellness.utah.edu](http://www.wellness.utah.edu) or 801-581-7776.

### Veterans Center

If you are a student veteran, the University of Utah has a Veterans Support Center located in Room 161 in the Olpin Union Building. Hours: M-F 8-5pm. Please visit their website for more information about what support they offer, a list of ongoing events and links to outside resources: <http://veteranscenter.utah.edu/>. Please also let me know if you need any additional support in this class for any reason.

### LGBT Resource Center

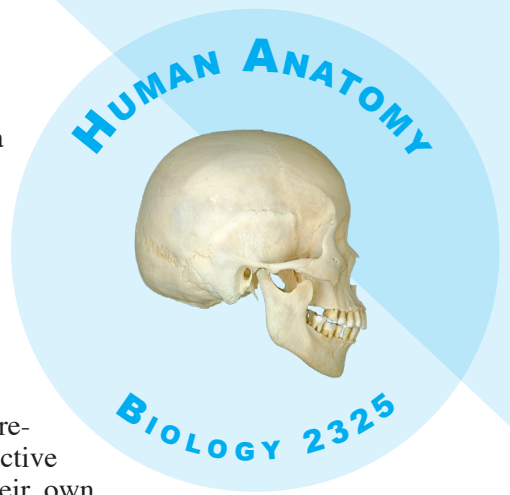
If you are a member of the LGBT community, I want you to know that my classroom is a safe zone. Additionally, the University of Utah has an LGBT Resource Center on campus. They are located in Room 409 in the Oplin Union Building. Hours: M-F 8-5pm. You can visit their website to find more information about the support they can offer, a list of events through the center and links to additional resources: <http://lgbt.utah.edu/>. Please also let me know if there is any additional support you need in this class.

### English as an Additional/Second Language

If you are an English language learner, please be aware of several resources on campus that will support you with your language and writing development. These resources include: the Writing Center (<http://writingcenter.utah.edu/>); the Writing Program (<http://writing-program.utah.edu/>); the English Language Institute (<http://continue.utah.edu/eli/>). Please let me know if there is any additional support you would like to discuss for this class.

## GENERAL INFORMATION

Anatomy is an enjoyable topic that is not conceptually difficult, however, from a time commitment perspective it is rigorous. It requires a considerable amount of memory work, coupled with the ability to use the memorized knowledge to solve problems and synthesize answers (national studies have shown that you learn more new vocabulary in an anatomy course than you do in a semester foreign language course). **Work on the course daily, do not get behind, and you can succeed and have a rewarding learning experience.**



### Lectures

This anatomy course incorporates a wide array of pedagogy, from excellent lecture-oriented instruction and pre-lecture movies, to problem-based learning, interactive discussions, and collaborative labs. Throughout the course students create their own textbook that is specific to the course of study. For this reason, students who attentively participate in lecture sessions have a distinct advantage. All lecture examinations are based on the material covered in lecture/discussions, with all material being equally important and fair game.

### Books and Software

#### **REQUIRED MATERIALS**

The anatomy course pack includes the following (available through the bookstore or from Kendall-Hunt at this url - <https://he.kendallhunt.com/product/human-anatomy>) **I strongly recommend that you purchase this pack from the U of U Bookstore or kendall-Hunt because Amazon does not include the Interactive Atlas, which will then become an additional cost:**

*Human Anatomy Lecture Manual*, 7th edition by Mark Nielsen — invaluable outline of all lectures containing the illustrations used in lecture; course would be very difficult without it. As you add notes to this book in class you will be building a customized textbook.

*Human Anatomy Workbook and Study Guide*, 7th edition by Mark Nielsen — this book contains information and exercises to help you succeed in the course. If you use it daily, you will be well prepared for the examinations in the course. It also contains a model of the pelvis/perineum that you will build to help you better understand this region and earn points toward your lab score.

Web access to lab software program (the url to access the *Human Anatomy Interactive Atlas* [see below] is found in the first page of the *Human Anatomy Lecture Manual with a product key that will let you access the software*):

*Human Anatomy Interactive Atlas* by Shawn Miller and Mark Nielsen — this program contains interactive photos of cadavers that will help you prepare for and review the lab material and prepare for the lab practical examinations. It is designed to allow you to interactively quiz yourself as you study your anatomy.

#### **WileyPlus Textbook included with course fees includes the following:**

*Principles of Human Anatomy* and New WileyPlus Web Link, 15th edition by Jerry Tortora and Mark Nielsen. This is the on-line textbook resource and web-link that will contain the weekly homework assignments. It is an excellent textbook and a powerful resource to reinforce material covered in lecture and laboratory. The on-line site called New WileyPlus has lots of features to help you learn anatomy.

*Real Anatomy* by Mark Nielsen and Shawn Miller — is a web-based program that is part of the New WileyPlus site and it allows you to dissect a cadaver on your computer while rotating it in three-dimensional space. It contains over two thousand cadaver images that can be studied, labeled, and rotated. It essentially allows you to take the lab home with you as you study and prepare for labs. You have access to this along with many other great learning aids via New WileyPlus. This software will be used weekly during the labs and makes the lab possible online.

*Concept Lectures* by Mark Nielsen — is also included with New WileyPlus. This series of twenty lectures by Mark Nielsen supplement the lectures in the course and are assigned watching prior to numerous lectures throughout the course.

#### **Canvas based materials:**

*Human Anatomy Lab Manual*, 7th edition by Mark Nielsen — this book is available on the course Canvas page and will be posted once the semester begins. It contains all the information you will need as you prepare for the labs. It will guide your study in preparing for labs. It will provide lists of structures you will study in the lab and help you in your preparation for the quizzes, midterm practical exam, and final practical exam in the laboratory.

# HUMAN ANATOMY



BIOLOGY 2325

## Materials

Obtain good quality colored pencils in pure or bright colors (e.g., red, blue, and green). Anatomy is a visual subject and in lecture I will use color presentations that correspond to the illustrations in the lecture manual. It will be to your advantage to color-code drawings that you encounter in the lecture manual.

## Examinations

All examinations are announced in advance (see University of Utah Class Schedules Fall 2023) and **ALL ARE REQUIRED**. The three midterm lecture examinations will cover specific parts of the course; the final lecture examination covers material since the third midterm plus has a comprehensive component. In addition, there will be weekly quizzes in the lab sections and a final comprehensive practical examination in the laboratory. Mark these dates on your calendar. Midterm coverage is as follows:

First midterm: 75 points covers histology through the digestive system anatomy  
Second midterm: 75 points covers nervous system through genital system anatomy  
Third midterm: 75 points covers anatomy of pelvis through superior limb anatomy  
Final exam: 100 points of coverage, 60 points on inferior limb through head and neck anatomy; the other 40 points of the exam will be comprehensively distributed over any material covered throughout the semester.

Laboratory: 150 points (see below for point breakdown)

Assignments: 15 bonus points (~1 point each week). These are open book assignments that are done on-line with the WileyPlus website. They are intended to help you keep up on the course material as you reinforce the knowledge covered during the week. Assignments are **NOT** mandatory and as bonus points can only help your grade. They are due each **Friday by 11:00 PM**. If you miss the deadline, you can still complete the assignment, but you will be deducted 50%. **NO EXCEPTIONS.**

## Evaluation of Student Performance

To pass this course, you must achieve a cumulative average of 45% or more on the following:

15.8% Midterm Exam I - 75 points  
15.8% Midterm Exam II - 75 points  
15.8% Midterm Exam III - 75 points  
21.0% Final Exam - 100 points - 60 pts new, 40 pts comprehensive  
31.6% Laboratory Grade - 150 points:  
    11 lab quizzes @ 5 points each = 55 points  
    Pelvic model = 5 points  
    Practical quiz on cadavers = 10 points total  
    Two bone practical quizzes @ 5 points each = 10 points total  
    Final practical examination = 70 points  
Bonus Weekly Assignments - 15 points total  
    15 question sets @ 1 point each  
Total points possible = 475

The grading breakdown, based on the 475 points possible, is as follows:

>90%	A
88.5—89.9	A-
84.5—88.4	B+
80.0—84.4	B
77.5—79.9	B-
70.0—77.4	C+
60.0—69.9	C
50.0—59.9	C-
45.0—49.9	D
<45.0	E

**All grades are final. There is no opportunity to change your grade after you have completed the course. If you have been accepted into a professional program and your entry depends on passing this course, then you must achieve the necessary grade. Under no condition will make-up work or exam re-takes be given.**

## Accommodations Policy

I do not grant content accommodation requests as the course content fulfills legitimate pedagogical goals.





# HUMAN ANATOMY



BIOLOGY 2325

## LECTURE/EXAM SCHEDULE

Fall Semester 2023

**READ THIS SCHEDULE - YOU ARE RESPONSIBLE FOR THE DATES AND TIMES.**

**Professor: Jon Groot**

**Office: Building 044 Room 215**

**Email: jon.groot@biology.utah.edu**

**Lecture Sect 001:** M,T,W,Th 9:40 to 10:30 AM in ASB 220

**Lecture Sect 014:** M,T,W,Th 11:50 to 12:40 PM in JTB 310

### DATE

### SUBJECT

Monday, August 21	Introduction to Course - <b>Read Anatomical Nomenclature in Lecture Manual, Watch Movie: Etymology</b>
Tuesday, August 22	Histology - Epithelium
Wednesday, August 23	Histology - Connective Tissues - <b>Watch Movie: Tissue versus Structure/Layer - You should watch this movie sometime before Monday lecture</b>
Thursday, August 24	Integument
Friday, August 25	<b>LAST DAY TO ADD WITHOUT A PERMISSION CODE</b>
Monday, August 28	Integument
Tuesday, August 29	Osteology
Wednesday, August 30	Osteology
Thursday, August 31	Arthrology - <b>Watch Movie: Anatomy of a Skeletal Muscle</b>
Friday, September 1	<b>LAST DAY TO ADD, DROP &amp; ELECT CREDIT/NO CREDIT</b>
Monday, September 4	<b>LABOR DAY - NO CLASS</b>
Tuesday, September 5	Myology - <b>Watch Movie: Water Environment and Anatomy of Tubes</b>
Wednesday, September 6	Cardiovascular System - <b>Watch Movies: Circulation, Blood Vessel Pattern, Anatomy of Arteries</b>
Thursday, September 7	Cardiovascular System - <b>Watch Movies: Capillaries, Anatomy of Veins, Lymphatics</b>
Monday, September 11	Cardiovascular System - <b>Watch Movies: Environmental Exchange, Urinary Tube Pattern, and Portal Systems</b>
Tuesday, September 12	Urinary System - <b>Watch Movie: Respiratory Tube Pattern</b>
Wednesday, September 13	Respiratory System - <b>Watch Movie: Digestive Tube Pattern and Digestive Tube Structure-Function</b>
Thursday, September 14	Digestive System
Monday, September 18	Digestive System
Tuesday, September 19	Nervous System
Wednesday, September 20	Nervous System
Thursday, September 21	<b>EXAMINATION 1 - Histology through Digestive System 5:30 to 7:30 PM</b>
Monday, September 25	Nervous System
Tuesday, September 26	Nervous System / Exams Returned - <b>Watch Movies: Vertebrate Body Plan, Body Wall Muscles</b>
Wednesday, September 27	Structural Patterns of the Trunk
Thursday, September 28	Anatomy of the Thorax
Monday, October 2	Anatomy of the Thorax
Tuesday, October 3	Anatomy of the Thorax / Anatomy of the Abdomen
Wednesday, October 4	Anatomy of the Abdomen
Thursday, October 5	Anatomy of the Abdomen
October 9-13	<b>FALL BREAK - NO CLASS</b>
Monday, October 16	Genital Systems
Tuesday, October 17	Genital Systems
Wednesday, October 18	Anatomy of Pelvis
Thursday, October 19	Anatomy of Pelvis
Friday, October 20	<b>LAST DAY TO WITHDRAW</b>

# LECTURE/EXAM SCHEDULE

(continued)



DATE	SUBJECT
Monday, October 23	Anatomy of Pelvis
Tuesday, October 24	Anatomy of the Back
Wednesday, October 25	Structural Patterns of the Limbs - <b>Watch Movie: Brachial Plexus and Learning Muscles</b>
Thursday, October 26	<b>EXAMINATION 2 - Nervous System through Genital System 5:30 to 7:30 PM</b>
Monday, October 30	Anatomy of the Superior Limb - Brachial Plexus
Tuesday, October 31	Anatomy of the Superior Limb - Scapular Muscles / Exams Returned
Wednesday, November 1	Anatomy of the Superior Limb - Shoulder Muscles
Thursday, November 2	Anatomy of the Superior Limb - Shoulder / Brachial Muscles / Topography
Monday, November 6	Anatomy of the Superior Limb - Antebrachial Muscles
Tuesday, November 7	Anatomy of the Superior Limb - Hand Muscles - <b>Watch Movie: Brachial Plexus Distribution</b>
Wednesday, November 8	Anatomy of the Superior Limb - Brachial Plexus Distribution Review
Thursday, November 9	Anatomy of the Inferior Limb - Innervation / Hip Muscles
Monday, November 13	Anatomy of the Inferior Limb - Hip Muscles / Medial Thigh Compartment
Tuesday, November 14	Anatomy of the Inferior Limb - Medial Thigh Compartment / Muscles and Gait
Wednesday, November 15	Anatomy of the Inferior Limb - Thigh Muscles and Vasculature
Thursday, November 16	<b>EXAMINATION 3 - Pelvis/Perineum through Superior Limb 5:30 to 7:30 PM</b>
Monday, November 20	Anatomy of the Inferior Limb - Crus Muscles / Exams Return
Tuesday, November 21	Anatomy of the Inferior Limb - Foot Muscles
Wednesday, November 22	Structural Patterns of the Head and Neck / Head and Neck Anatomy - Neck Muscles
Thursday, November 23	<b>THANKSGIVING HOLIDAY - NO CLASS</b>
Monday, November 27	Head and Neck Anatomy - Somitic and Prechordal Muscles / Pharyngeal Arch Muscles
Tuesday, November 28	Head and Neck Anatomy - Pharyngeal Arch and Lateral Mesoderm Muscles
Wednesday, November 29	Head and Neck Anatomy - Mouth Anatomy
Thursday, November 30	Anatomy of the Head and Neck - Mouth / Eye
Friday, December 1	<b>LAST DAY TO REVERSE CREDIT/NO CREDIT</b>
Monday, December 4	Anatomy of the Head and Neck - Eye
Tuesday, December 5	Anatomy of the Head and Neck - Ear
Wednesday, December 6	Anatomy of the Head and Neck - Ear
Thursday, December 7	Anatomy of the Head and Neck - Cranial Nerves
Friday, December 8	Reading Day
Tuesday, December 12	<b>FINAL COMPREHENSIVE EXAMINATION FOR BOTH SECTIONS 3:30 TO 5:30 PM Inferior Limb; Head and Neck Anatomy; and Comprehensive portion</b>



## LABORATORY INFORMATION

The lab is a necessary adjunct to the lecture. It is designed to give students a practical, three-dimensional view of anatomy in a collaborative learning environment. Lab subject matter coincides as nearly as possible with lecture material. Each lab session (except the first lab) is based on the prior week's lectures. Lab sessions begin with a visual quiz. The quiz will test students primarily on the material they will study in that lab. This form of testing; that is, testing at the beginning of the lab on material that you will study in the lab encourages you to come to lab prepared. Experience shows that students who come prepared to lab, learn the anatomy and excel in the course. Therefore, the quiz serves as motivation to help you prepare for lab. **You must attend and take the quizzes in your assigned lab section.** The quizzes are an important part of your grade. Also, students who do well on the quizzes usually do well on the laboratory practical examination. Efficiently utilize your time in lab; the lab will be open for student use only at the times indicated on the schedule. ***I cannot stress enough the importance of coming to lab prepared to participate and learn. This requires that you study the prior***

***week's lecture material in advance of the lab session. The lab manual will guide your study in preparation for the lab. Past students emphasize that the lab is one of the most critical aspects to performing well in the course. This alone could make or break your anatomy experience.***

### Textbook

*Human Anatomy Lab Manual* by Mark Nielsen. The lab manual is available as a PDF download on the course Canvas page. It will provide you with the necessary instructions and guidelines to prepare for and make the most out of the laboratory experience. In addition the *Lecture Manual* and the *Workbook and Study Guide* will have materials that you will use as you prepare for the lab. The pelvis model that will be required as a portion of the lab grade is included in the back of the *Human Anatomy Workbook and Study Guide*. The *Human Anatomy Interactive Atlas* by Shawn Miller and Mark Nielsen, which you will access on the web, is required for the lab. Assigned pictures from this software program will be used as the basis for quiz material each week. Familiarizing yourself with these cadaver photos will help you prepare for the laboratory and they can serve as a valuable reference after the lab to review the things you studied during the lab period. In addition, the *Real Anatomy* software on WileyPlus is also a great resource for studying the lab material.

### Required Materials

In the lab you will handle cadaver parts. The cadavers are maintained in a dilute 2-phenoxyethanol solution (5 parts chemical to 95 parts water). This is an odorless wetting agent and preservative. Handling the cadavers is an extremely important aspect of the lab. It is difficult to learn anatomy if you are afraid to touch and manipulate the cadavers. Cadaver study is probably the most powerful tool for learning anatomy, so get involved and explore the cadavers. You may purchase latex gloves at the bookstore.

### Weekly Quizzes

At the beginning of each lab session you will take a five-point quiz comprised of ten questions. The quiz is primarily based on material that you will study during that day's lab, as well as some review questions from past labs. Quizzing you on material you have yet to see in the lab helps motivate you to come to lab prepared, while review questions from the past labs help to solidify your knowledge. This maximizes learning. You will be exposed to the lab material in the previous week's lectures, so it will not be completely unfamiliar to you. The quiz will consist of photographic cadaver slides being projected on a screen, while a lab teaching assistant points to selected structures and asks the students to identify them. The slides are all pictures from the *Human Anatomy Interactive Atlas Software*. The pictures to study for the quiz are listed in the lab manual. By studying the previous week's lectures and the selected pictures you will come to lab well prepared for the quiz, and more importantly you will be prepared to learn the material presented in the lab. There will be 11 quizzes worth 5 points each for a total of 55 points.

### Practical Quizzes and Examinations

Practical quizzes and examinations are hands-on assessments using the cadaver parts and bones in the laboratory. Structures on the cadavers will be labeled with strings and probes and you will be asked to identify the labeled structures. There will be four practical assessments throughout the semester. These will include two practical quizzes on the bones worth five points each, a practical quiz on the cadavers worth ten points, and a final practical examination given in the final lab session worth 70 points. You will have two hours to complete the final practical examination. There will also be practice practical assessments in some of the labs to help you prepare for this type of test. In addition to helping you prepare for the quizzes each week in the lab, the *Human Anatomy Interactive Atlas Software* will be a valuable tool in helping you prepare for the final practical examination in the laboratory. *Real Anatomy 2.0* in WileyPlus is outstanding study aid for the final practical exam and it is to your advantage to use it.

# LABORATORY TEACHING ASSISTANTS



## Monday Labs

### Monday 12:55 - 2:40

**\*Lorrin Malady**  
**Lauren Gayer**  
**Rose Sauve**  
**Trevor Larson**  
**Wade Quilter**

### Monday 2:50 - 4:35

**\*Sierra Creer**  
**Lorrin Malady**  
**Rose Sauve**  
**Andrew Mardini**  
**James Potts**

### Monday 4:45 - 6:30

**\*Kevin Nguyen**  
**Lorrin Malady**  
**Marina Allen**  
**Bradley Smith**  
**Bryce Cook**

### Monday 6:40 - 8:25

**\*Sam Carling**  
**Kevin Nguyen**  
**Ryan Damour**  
**AJ Chubak**  
**Loralei Bradford**

## Tuesday Labs

### Tuesday 12:55 - 2:40

**\*Alex Malin**  
**Aidan Connor**  
**Kevin Nguyen**  
**Grace Pennington**  
**Sofia Shilton**

### Tuesday 2:50 - 4:35

**\*Maisy Webb**  
**Alex Malin**  
**Aidan Connor**  
**Laurel Taylor**  
**Mason Slaughter**

### Tuesday 4:45 - 6:30

**\*Ryan Damour**  
**Alex Malin**  
**Maisy Webb**  
**Agustina Alcalá**  
**Mike Harper**

### Tuesday 6:40 - 8:25

**\*Rose Sauve**  
**Maisy Webb**  
**Ryan Damour**  
**Haley Epperson**  
**Suzie Park**

## Wednesday Labs

### Wednesday 12:55 - 2:40

**\*Lauren Gayer**  
**Kimberly Kirby**  
**Alex Lopez**  
**Laili Couper**  
**Zina Horman**

### Wednesday 2:50 - 4:35

**\*Aidan Connor**  
**Kimberly Kirby**  
**Lauren Gayer**  
**Eva Owen**  
**Tristin Torkelson**

### Wednesday 4:45 - 6:30

**\*Kimberly Kirby**  
**Marina Allen**  
**Sam Carling**  
**Sierra Creer**  
**Kerri Steinbrecher**

### Wednesday 6:40 - 8:25

**\*Marina Allen**  
**Sam Carling**  
**Sierra Creer**  
**Ellie Dunn**  
**Maggie Simmons**

The \* indicates the person in charge of the lab.

# HUMAN ANATOMY



BIOLOGY 2325

## LABORATORY SCHEDULE

Fall Semester 2023

### Lab sections:

Monday 12:55-2:40, 2:50-4:35, 4:45-6:30, and 6:40-8:25

Tuesday 12:55-2:40, 2:50-4:35, 4:45-6:30, and 6:40-8:25

Wednesday 12:55-2:40, 2:50-4:35, 4:45-6:30, and 6:40-8:25

### LAB PERIOD

August 21, 22, 23

August 28, 29, 30

September 4, 5, 6

September 11, 12, 13

September 18, 19, 20

September 25, 26, 27

October 2, 3, 4

October 9, 10, 11

October 16, 17, 18

October 23, 24, 25

October 28, 29

October 30, 31, November 1

November 6, 7, 8

November 13, 14, 15

November 20, 21, 22

November 27, 28, 29

December 2, 3

December 4, 5, 6

### SUBJECT

**NO LABS**

**Lab Quiz;** Introduction; Skeletal system – Appendicular skeleton

**NO LABS**

**Lab Quiz;** Introduction to soft tissues; Circulatory system

**Lab Quiz;** Overview of urinary, respiratory, and digestive systems

**NO LABS**

**Lab Quiz;** Skeletal system – Axial skeleton; Nervous system

**NO LABS - FALL BREAK**

**Lab Quiz;** Anatomy of the thorax and abdomen

**Lab Quiz;** Mediastinum; Abdominal Vasculature; Genital systems

**SATURDAY/SUNDAY REVIEW LABS - TIMES TO BE ANNOUNCED**

**Lab Quiz;** Anatomy of the pelvis; Anatomy of the back

**Turn in Pelvis model for 5 points**

**Practical Quiz (10 points)**

**Lab Quiz; Bone Practical Quiz (5 points);** Anatomy of the superior limb

**Lab Quiz;** Anatomy of the superior limb

**Lab Quiz; Bone Practical Quiz (5 points);** Anatomy of the inferior limb

**Lab Quiz;** Anatomy of the inferior limb

**SATURDAY/SUNDAY REVIEW LABS - TIMES TO BE ANNOUNCED**

**Final Comprehensive Practical Exam (70 points):**