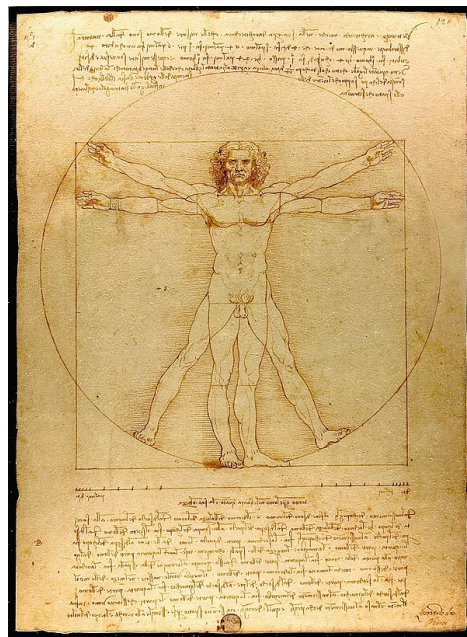


IB 131L General Human Anatomy Laboratory

The primary objectives of this course are to develop the ability to visualize the forms of body structures that are hidden beneath the surface of the living human being, to understand the major functions of these various structures, and to understand the relationships between structures, and between form and function on both gross and microscopic levels.

This course is for you, if you are currently enrolled in IB 131 General Human Anatomy, or you would like to further develop your anatomical knowledge. This laboratory course is designed to enhance your understanding of human anatomy through examining cadaveric prosections, preserved specimens and histological slides, handling models, and performing dissections. After a semester of study with real specimens and models, you should be able to bring your anatomy knowledge from the classroom to real life, as well as appreciate the biological perfection and imperfection of the human body.



Vitruvian Man, Leonardo da Vinci, c.1490 (image from internet)

Instructors

Faculty Instructor

Juan Liu, PhD

5112 Valley Life Science Building

I (Prof. Liu) do not directly teach in the lab or hold regular office hour for IB 131L. However, I communicate regularly with the head GSI and your sectional GSI. When you have questions, your sectional GSI should be the first person to approach, then the head GSI. For more questions or concerns, email me with “IB131L” in the subject line and use the official name you use with the University and/or use your email address registered with the University. If I cannot tell that you are officially a student at Berkeley and enrolled in IB131L this semester, I may not reply to your email. You are also welcome to join my weekly Anatomy Tea Time for IB 131 (see bCourses announcement).

Head GSI of IB 131 and 131L

Eric Holt

Office hour – TBD (see bCourses announcement)

GSI and Lab section schedules

Section #	Time	GSI	Email	Office Hours*
001	Tu 8-12	Devon Comito		TBD
002	Tu 1-5	Drew Salmon		TBD
003	Tu 6-10	Kathryn Lin		TBD
010	We 7-11	Robert Leija		TBD
004	We 1-5	Emily Bogner		TBD
005	We 6-10	Nicole Cho		TBD
006	Th 8-12	Taormina Lepore		TBD
007	Th 1-5	Derrick Leong		TBD

008	Th 6-10	Chloe Papadaki		TBD
009	Fr 12-4	Nick Holloway		TBD

Lab schedules

Lab #	Week	Lab content
Lab 1	8/29 - 9/2/2022	Orientation of Anatomy, and Integument System
Lab 2	9/6 - 9/9/2022	Skeletal System
Lab 3	9/12 - 9/16/2022	Muscular System
Midterm 1	9/19 - 9/23/2022	
Lab 4	9/26 – 9/30/2022	Respiratory System
Lab 5	10/3 - 10/7/2022	Digestive System
Lab 6	10/10 - 10/14/2022	Cardiovascular System
Midterm 2	10/17 - 10/21/2022	
Lab 7	10/24 - 10/28/2022	Nervous System
Lab 8	10/31 - 11/4/2022	Special Senses
Lab 9	11/7 - 11/11/2022	Lymphatic, Immune, and Endocrine Systems
Lab 10	11/14 - 11/18/2022	Urinary and Reproductive Systems
no lab	11/21 - 11/25/2022	
Final exam	11/28 - 12/2/2022	

Quizzes and Exams

All the assignments for the human anatomy lab course will be in-person and on-paper. Spelling does matter. If we cannot read your answers or your spelling makes them unclear, you will not receive points for your answer. Points taken off for spelling are at the discretion of individual GSIs when they grade.

Lab Quizzes – From the week of Lab 3, there will be a weekly quiz every week except the exam weeks on the previous and current week's lab material. Quizzes will mostly cover the previous lab's material, as well as the basics of the current week's material (80% previous, 20% current). **You are expected to have read through the lab in your manual before you come to your lab section.** Read through the lab lecture slides and lab guides/cadaver lists before you come to class; these will guide you toward the terms and concepts you will be tested on. Each quiz is worth ten (10) points. Your lowest quiz score will be dropped, resulting in a total of 70 points available for quizzes. (8-1 quizzes x 10 points each). Please see bCourses announcement for details on the quiz format.

Lab Exams – Exams are in a lab practical style and worth 100 points each. You will cycle through 25 stations and examine small exhibits meant to test your ability to identify structures of the body and understand their importance & interrelationships. At each station, you will be given two minutes and thirty seconds (2:30) to answer four questions. When you have cycled through all stations, you will be given an extra minute and fifteen seconds (1:15) at each station to check your answers. 25 stations x 4 questions per station = 100 points per exam. The three exams therefore make up 300 points. Exams are not strictly cumulative, but the course material naturally builds on itself as the course progresses, so you may still need to know things like cranial foramina and tissue types from early labs for later exams.

Grades

Final grades will be calculated and accumulated from the total number of points earned divided by the total possible from midterm and final exams (370 points). Grades will not be curved. Final grades will be rounded up to the nearest whole number.

Note: Grading takes time. Please be patient when we are working on it. In general, you should expect to know your official grade on an assignment by the next lab session.

Grade Scale

A+	97-100%
A	93-96%
A-	90-92%
B+	87-89%
B	83-86%
B-	80-82%

C+	77-79%
C	73-76%
C-	70-72%
D+	67-69%
D	63-66%
D-	60-62%
F	0-59%

Accommodations

If you have a disability (see below), sports conflicts, or religious needs, please email me (Juan Liu), your section GSI, and the head GSI (Eric Holt) early in the semester for anticipated conflicts.

Absence Policy

If you need to miss class because of a serious illness, family emergency, or an extracurricular conflict of the type above, you may be able to make up a week's lab in another section. In order to do this, write an email to your GSI explaining your situation and cc (1) the head GSI (Eric Holt) and (2) the GSI who teaches the section you wish to attend. Make sure that the GSI of the section you wish to switch into confirms that you can join their section.

If you cannot make an alternative section during the week of your absence, we will not be able to offer an alternative lab activity. Depending on your situation, your quiz grade for that week may be recorded as "0".

Potential Extracurricular Conflicts

Please notify me in writing by the second week of the term about any known or potential extracurricular conflicts (such as religious observances, graduate or medical school interviews, or team activities). I will try my best to help you with making accommodations, but cannot promise them in all cases. In the event there is no mutually-workable solution, you may be dropped from the class.

Students with Disabilities

UC Berkeley is committed to creating a learning environment that meets the needs of its diverse student body including students with disabilities. If you anticipate or experience any barriers to learning in this course, please feel welcome to discuss your concerns with the head GSI or me.

If you have a disability, or think you may have a disability, you can work with the Disabled Students' Program (DSP) to request an official accommodation. The Disabled Students' Program (DSP) is the campus office responsible for authorizing disability-related academic accommodations, in cooperation with the students themselves and their instructors. You can find more information about DSP, including contact information and the application process at <https://dsp.berkeley.edu/>. If you have already been approved for accommodations through DSP, please notify the head GSI and your section GSI via email.

If you are injured or become ill such that your ability to participate in our lab course is seriously affected (for instance: you break your writing hand), the campus DSP office may be able to grant you temporary accommodations.

Technology Support

UC Berkeley provides technology support for undergraduate and graduate students that may prove valuable in this course, including free software (software.berkeley.edu), device lending (technology.berkeley.edu/step) and the student helpdesk (studenttech.berkeley.edu/techsupport).

Academic Integrity and Ethics

The student community at UC Berkeley has adopted the following Honor Code: **“As a member of the UC Berkeley community, I act with honesty, integrity, and respect for others.”** The hope and expectation is that you will adhere to this code.

Collaboration and Independence: Reviewing lecture and reading materials and studying for exams can be enjoyable and enriching things to do with fellow students. This is recommended. However, unless otherwise instructed, homework assignments are to be completed independently and materials submitted as homework should be the result of one's own independent work.

Cheating: A good lifetime strategy is always to act in such a way that no one would ever imagine that you would even consider cheating. Anyone caught cheating on a quiz or exam will receive a failing grade and will also be reported to the University Center for Student Conduct. In order to guarantee that you are not suspected of cheating, please keep your eyes on your own materials and do not converse with others during the quizzes and exams.

Plagiarism: To copy text or ideas from another source without appropriate reference is plagiarism and will result in a failing grade for your assignment and usually further disciplinary action. For additional information on plagiarism and how to avoid it, see, for example:

<http://www.lib.berkeley.edu/instruct/guides/citations.html#Plagiarism>

<http://gsi.berkeley.edu/teachingguide/misconduct/prevent---plag.html>

Cheating on exams and plagiarism are two common examples of dishonest, unethical behavior. Honesty and integrity are of great importance in all facets of life. They help to build a sense of self-confidence, and are key to building trust within relationships, whether personal or professional. There is no tolerance for dishonesty in the academic world, for it undermines what we are dedicated to doing – furthering knowledge for the benefit of humanity.

More information about Academic Integrity can be found at <https://sa.berkeley.edu/conduct/integrity>.

Course Materials

Required text: IB 131 General Human Anatomy Laboratory Guide, 2022 edition. A PDF version is posted in bCourses, and hard copy can be purchased at Copy Central (2411 Telegraph Avenue (510) 848-8649). A hard copy of the current year's lab manual is required for the course.

Recommended Supplemental Texts: Marieb & Mitchell, Human Anatomy Laboratory Manual with Cat Dissection, 8th, 7th, or 6th.
Heisler et al. PAL 3.0 Practice Anatomy Lab.

These books are recommended but not required. There are also anatomy books available for you to use in the lab. Note: do not touch the books when wearing gloves.

Online 3D anatomy: The [Visible Body](#), we have institutional subscription. You can access the resources either on campus or using [VPN connection of UCB](#) when off campus.

- **Visible Body Anatomy and Physiology** by system: <https://aandp-visiblebody-com.libproxy.berkeley.edu/index.php>
- **Visible Body Human Anatomy Atlas:** <https://atlas-visiblebody-com.libproxy.berkeley.edu/index.php>
- **Acland's Video Atlas of Anatomy Vol. 4: Head & Neck:** <https://aclandanatomy-com.libproxy.berkeley.edu/Multimedia.aspx?categoryid=39468>

Online Histology: [Histology Guide \(https://histologyguide.org/\)](https://histologyguide.org/) is an excellent resource for learning histology, with beautiful high-resolution images of real histology slides and guided tours through the important structures seen on them.

bCourses Site

We will use bCourses extensively, including the announcements, lecture slides, lecture recording, quizzes/exams, and discussion board

Laboratory Lectures and Slides

Each lab will have a lab lecture delivered to you by your GSI. The lecture slides should be uploaded to bCourses on or before the Monday of the week of lab.

Other Learning Resources

Class Lectures

The class lectures (IB 131) and laboratory study (IB 131 L) are meant to complement each other. You should integrate material presented in class lectures and in the lab as much as possible to clarify your understanding. Although lab exams will only cover information presented in lab, you should review both lecture and lab material for lab exams.

GSI

The GSI is a major source of information available to you. Don't hesitate to ask your GSI questions, either during lab periods or during open labs. Because of the nature of the labs and especially the lab exams, students who anticipate missing a lab for any reason should contact their GSI at least two weeks in advance to discuss options for making up the lab. DSP students should contact their GSI as soon as possible.

Laboratory Lectures, Presentations, Demonstrations

Part of each lab period will be devoted to lecture, histology slides, and cadaver and/or model demonstrations by the GSI. You will be responsible for this material on lab exams, so pay attention.

Bioscience and Natural Resources Library

The Bioscience and Natural Resources Library is in the Valley Life Sciences Building. The most recent editions of medical references and medical textbooks are available for library use only from the Medical Core Collection, which is shelved on the main floor of the library. If you wish to charge out these references, earlier editions of these books are shelved in the open stacks for circulation. For electronic access to subjects that interest you, consult BIOSIS, CURRENT CONTENTS, MEDLINE, and PUBMED on the MELVYL terminals. To find out which databases are currently available or if you need help, see the reference librarian.

Your Classmates

Another major source of information should be the other students. Learning anatomy well requires hands on experience, practice, and above all, repetition. The more times you hear a term, or better yet, say it, the more likely you will remember it. Also, the best way to find out if you really understand something is to try to explain it to someone else. So talk to other students during the labs, ask questions, share your ideas, etc. You will get the most out of your lab sessions if you approach the course as a cooperative venture. In this spirit, we strongly recommend that you spend most of your time in pairs, or very small groups teaching each other anatomy. We have found that this kind of "buddy system" is the best way to learn anatomy and enjoy the process.

Your Own Body

One of the convenient features of a class in anatomy is that you always have an example of the subject matter available for reference, even during tests. Many bones and muscles can be palpated, the actions of muscles can often be deduced from body movements, and merely looking at the body can be helpful in visualizing deeper structures.

Laboratory materials

The material used in this course fall into five general categories. Each of these will make up approximately one fifth of each exam when applicable, so divide your time accordingly:

Cadaveric prosection

A prosection is the dissection of a cadaver or part of a cadaver by an experienced anatomist in order to demonstrate anatomic structure for students. It is important that you familiarize yourself with basic precautions for the use of cadavers and that you treat the cadavers with appropriate care.

Wet and dry prepared specimens (Organ preparations)

Wet, skeletons, and bone collections. With the exception of specific organ preparations, these will be available for review whenever the lab is open. Human skulls may be checked out for study during lab hours, in exchange for temporary holding of your student ID card.

Dissection

One of the most important approaches to learn anatomy is dissection. In some labs, you will have opportunities to conduct hands-on dissections on organs of sheep, pig, or cow to learn basic dissection techniques and general anatomical features of the dissected organs. Fresh organ specimens (non-human) may be used to demonstrate their function by your instructors (e.g. lung inflation).

Models

Most models cover gross anatomy and will be set up as labeled demonstrations at the beginning of each week. Models from previous weeks may be checked out for study during lab hours, in exchange for temporary holding of your student ID card. Some of these models are very fragile and virtually irreplaceable, so handle them with care.

Histology

There are three types of histology materials. (1) Digital slides will be presented by the GSI at the beginning of each lab period during a brief lecture, and you will have digital copies of the lecture slides. (2) Microscope slides will be set up by the GSIs at the beginning of each week, as labeled demonstrations. Again, these will only remain set up for one week. (3) Student loan microscope slide collections (contained in 100-capacity slide box sets) can be checked out for your use during the lab period, in exchange for temporary holding of your Student ID card. If you are not familiar with the use of the binocular compound microscope, please ask your GSI to show you.

Note: Please read Care and Use of Laboratory Materials and Equipment (in this guide).

Laboratory Format (Course of Events during Each Lab Period)

GSI Lecture

Each laboratory period will proceed with an introductory lecture by the GSI, lasting about

20-30 minutes. The lecture will usually consist of course announcements, an orientation to the system being studied, an overview of lab material setup, and maybe demonstration of specimens.

Examination of Stationed Lab Materials

Following the introductory lecture, you will begin examining the stationed materials using your lab guide as a roadmap. Your GSI and/or ULM may provide demonstrations at the cadaver, wet specimens, and/or models, and assistance at the microscopes. Then you are free to embark on your individual study of and rotate through all stations. As mentioned above, you will have to plan your time carefully and cooperate with the other students to cover all the materials within a single lab period each week. Due to the size of the laboratory sections, only students enrolled in a particular section are allowed in the lab during those times. Students from any lab section may attend any Open Lab Period ("open hours").

Code of Conduct in Anatomy Lab

Sometimes it is easier for anatomy students to understand anatomical relationships if they are shown on the cadaver, other times by seeing a drawing on a board, or a model in the lab. Sometimes, however, the best way for students to understand a structure and its function is by having it demonstrated on himself or herself by another student or an instructor. This may entail, as examples, palpation of a structure, outlining the expanse of a muscle, or demonstrating where to find a pulse. While most students are perfectly comfortable with this kind of contact for the purposes of instruction, others are decidedly not. Therefore, it is prudent to establish a basis under which these interactions may occur.

- Rule #1: Physical contact between students or between students and instructors is not permitted without permission. Students and instructors must ask for and receive permission before touching a student.
- Rule #2: "No" means "no".
- Rule #3: Any unwelcome touching of one student by another should immediately be reported to your GSI. Any unwelcome touching of a student by an instructor should be immediately reported to either your professor (Dr. Juan Liu), or the head GSI (Eric Holt).

More to be aware of:

Berkeley Campus Code of Student Conduct

<https://sa.berkeley.edu/student-code-of-conduct/about>

UC sexual violence prevention & response

<https://sexualviolence.universityofcalifornia.edu/policies/>

How to Succeed in This Course

While each of us has our own learning styles, we also have our own learning blind spot. To get most out of this course, these are the suggested learning strategies which are hopefully to be incorporated in your learning journey:

- Come to lab prepared. Read the lab manual, relevant text material, and laboratory guides for that week before the lab starts. If you have any questions, bring them to the lab with you.
- Keep up. You will cover a lot of material during each lab period, and it is up to you to make the best use of your time to learn this material. As you will discover, anatomy provides an exciting range of new terminology. Learning these new terms will take practice and repetition!
- When possible, always stick to the learning schedule, don't fall behind. It takes more time to catch up than learning at the best time.

Final notes:

Intellectual course materials, including lecture slides, lab guide, quiz/exam questions that provided to you are copyrighted, for your use only. Distribution of course materials to public websites or social media platforms is prohibited.

Welcome to IB 131L and the anatomy lab 3070 VLSB. The GSIs and I look forward to working with you!

Go anatomy!