

Regional Human Anatomy—HBA 461/561/540

SUMMER 2021

COURSE INSTRUCTORS

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**Office hours for all course faculty this summer will be by appointment only and will be conducted online via Zoom. Requests for in-person meetings will be considered by individual faculty on a case-by-case basis.*

TEACHING ASSISTANTS

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BOOKS AND RELATED DIGITAL RESOURCES

DISSECTOR

The *required* laboratory dissector that we will be using in this course is *Grant's Anatomy Lab* (Wolters Kluwer). Based on the classic *Grant's Dissector*, this is an online dissection guide that has been customized specifically for this class. In order to gain access to the dissector, you must first purchase an access code (\$124.99 for one year of online access, purchased through RedShelf: <https://redshelf.com/item/24533>). Then go to the publisher's website (thePoint: <https://thepoint.lww.com/gateway>) to redeem your access code. (Click on New User, and then enter your access code to create your account and set your password. Then, the first time you log in to access the dissector, you will be asked to join a class. Your class code is **CL186**.)

PLEASE NOTE: You must purchase your access code for the dissector by the first day of class (Tuesday, June 22nd). In order to ensure 100% compliance with this requirement (because the price is negotiated with the publisher in part on the basis of total course enrollment), RedShelf will provide to the course director immediately following this deadline a list of students who have paid for their access codes; this list will then be checked against the course roster to determine who, if anyone, has not paid. *Please help us to keep this process as simple as possible by purchasing your access codes prior to this deadline.*

ATLAS

It is *required* that all students in this course obtain an atlas of human anatomy for their own personal use. (In the laboratory, a hard-copy atlas will be provided to each dissection group free of charge, but these copies will be for use in the laboratory only.) If you do not already have at your disposal a reasonably up-to-date atlas of human anatomy, it is suggested that you get the one that we will be using in the laboratory, a title that has long been a student favorite:

Atlas of Human Anatomy, 7th edition, F. H. Netter. Elsevier (2019). Available directly from the publisher, either in hard-copy format as a paperback (672 pp.; \$82.99 list price, but available at a 20% discount from Elsevier; <https://evolve.elsevier.com/cs/product/9780323393225?role=student>), or in digital format as an e-book (600 pp.; \$65.99 list price, but also available at 20% off; <https://evolve.elsevier.com/cs/product/9780323547086?role=student>).

However, if you already have at your disposal an earlier edition of Netter's -- or a copy of one of the other comprehensively illustrated atlases of human anatomy (e.g., *Grant's Atlas of Anatomy*; Thieme *Atlas of Anatomy*; Clemente's *Anatomy: A Regional Atlas of the Human Body*) -- these will serve as perfectly suitable alternatives.

TEXTBOOK

It is *recommended* (but not explicitly required) that all students in this course obtain and use a textbook of human anatomy. One book in particular stands out as being especially well suited for this fast-paced course, as it is adequately comprehensive, yet also reasonably concise, and relatively inexpensive:

Core Concepts in Anatomy, 3rd edition, J. T. Stern, Jr. (2012; revised 2017). This is a relatively short (<300 pp.) and concise synopsis and review book. A limited number of print copies will be available for purchase (\$20 for black-and-white editions; \$40 for color editions) on a first-come, first-served basis from the Department of Anatomical Sciences in the main departmental office (HSC T8, Room 040) during normal office hours (approximately 9:00 am to 5:00 pm), or in the anatomy lab supply room (HSC L2, Room 136) during SHTM orientation. Alternatively, this title can be purchased through Amazon.com, either as a print copy with color figures (\$39.95), or as a Kindle Edition (\$9.95). Used copies of previous editions of this title may be used as acceptable substitutes for the current edition.

SOFTWARE

Complete Anatomy. 3D4Medical from Elsevier. Available for macOS, Windows 10, iPad, iPhone, and Android mobile devices. This is a 3-D anatomical visualization app available at no charge to Stony Brook students. Go to the 3D4Medical website (<https://3d4medical.com>), click on TRY IT FOR FREE, and then enter your stonybrook.edu e-mail address. When you open the app for the first time, go to SETTINGS > MY ACCOUNT and enter the SBU Activation Code **WBXG3T4VSYHE**. (See PDF posted on Blackboard for additional download instructions.)

BLACKBOARD

Additional course materials (e.g., lecture videos, PDFs of lecture PowerPoints, radiology self-study exercises, brain atlas, handouts, exams from previous years) will be posted on Blackboard. To access these materials, just go to the Blackboard login page (<https://blackboard.stonybrook.edu/webapps/login/>), enter your NetID username and password, and click the "Login" button. As a registered student in the course, you should see a link to the main course page (".HBA 461.01 / HBA 540.01 / HBA 561.01 Regional Human Anatomy - Summer 2021") under your "My Courses" menu.

ZOOM

Although it is our expectation to conduct all Summer 2021 laboratory exercises in person, it will nevertheless remain essential that all students in this course have the video conferencing application Zoom installed on their computers and/or mobile devices. Zoom will be used for proctoring lecture exams (which will be administered online via Blackboard this summer), and as a platform for conducting safe one-on-one "office hours" meetings. (It would also be the platform used for remote delivery of virtual laboratory exercises in the unlikely event that a local resurgence of COVID-19 infections forced the administration to cancel in-person classes and laboratories for portions of the summer sessions.) If you haven't already done so, find out how to get started with your Stony Brook Zoom account by visiting the Stony Brook University Division of Information Technology (SBU DoIT) Zoom web page (<https://it.stonybrook.edu/services/zoom>).

LABORATORY INSTRUMENTS AND APPAREL

You will be provided with dissection tools at the beginning of the course, and with new scalpel blades throughout the course. You will not be charged for these items. A limited supply of used (but cleaned) scrubs and lab coats will be made available free of charge during the SHTM orientation in the anatomy lab supply room (HSC L2, Room 136). Nitrile gloves can be purchased in the anatomy lab supply room throughout the duration of the course at a price of \$10 per box of 100. *You will be responsible for supplying your own face masks, which must be worn at all times in the laboratory (and indeed, throughout the entire Health Sciences Center).*

BONE BOXES

Bone boxes, each containing a skull (or half skull) and elements of the postcranial skeleton, can be checked out by pairs of students in the anatomy lab supply room (HSC L2, Room 136) at the beginning of the course. The bone boxes are intended to be taken home for the purpose of study. Bone boxes must be returned at the end of the course, with all of their contents accounted for and in the same condition as when checked out. Please treat these bones -- *in particular the delicate skull bones* -- with the utmost care so that they remain valuable study materials for future students. This material is very costly to replace (if even available at all). Do not mark the bones with pencil, ink, or anything else. Use pipe cleaners -- *not probes or pencils* -- to explore the many openings throughout the skull.

CLASS SCHEDULE

In-person laboratories will meet Mondays through Thursdays from 2:00 pm to 5:00 pm and Fridays from 9:00 am to noon. Our first lab will be on Tuesday, June 22nd, at 2:00 pm. ***PLEASE BRING ALL YOUR LABORATORY GEAR ON THE FIRST DAY AND BE PREPARED TO BEGIN DISSECTION!!!*** READINGS FOR JUNE 22nd SHOULD BE DONE BEFORE COMING TO CLASS. (In *Grant's Anatomy Lab*: [1] Introduction and [2] The Back, *through* DEEP MUSCLES OF THE BACK. If you choose to use a textbook of human anatomy in this course, read the introductory section[s] of that, along with its coverage of the back region.)

In a typical year, lectures for this course are held in person in one of the large lecture halls in the Health Sciences Center during the hour (give or take) preceding each of our scheduled laboratories (i.e., at 1:00 pm on Mondays through Thursdays and at 8:00 am on Fridays). Unfortunately, however, the HSC lecture halls offer neither the space nor the enhanced rates of air circulation that we enjoy in our laboratory spaces. Due to these limitations, coupled with the large size of this course (nearly 200 students), we have been directed by the university administration to **NOT** hold in-person lectures for the Summer 2021 iteration of the course. Instead, we will be posting pre-recorded lectures for you to watch and listen to individually on your own schedules (i.e., asynchronously).

There will be three major exams in this course (see "Testing and Grading" below) -- *all starting at 12:00 pm* -- on Monday 7/12 (Module 1), Thursday 7/29 (Module 2), and Tuesday 8/17 (Module 3). There will also be three practice quizzes -- *all starting at 10:00 am* -- on Wednesday 6/30 (Module 1), Tuesday 7/20 (Module 2), and Tuesday 8/10 (Module 3).

HOW TO STUDY

For lecture material, rely primarily on the posted lecture slides and the notes that you take on these when watching and listening to the posted lecture videos, and supplement your studies by reading corresponding sections of the suggested textbook (*Core Concepts in Anatomy*). For laboratory material, focus primarily on reading the assigned sections in the dissector (*Grant's Anatomy Lab*), and supplement this effort by making extensive use of the illustrations in the atlas (*Netter's Atlas of Human Anatomy*). Fortunately, there is a great deal of overlap between the material covered in lecture and laboratory, so your efforts in each of these areas will help to reinforce those in the other. In general, the most effective strategy in this course is to first familiarize yourself with these readings *prior to* lectures and laboratories, and then review the readings again afterwards in an effort to reinforce important concepts and identify any material that you don't adequately understand -- well before you're examined on the material.

Note also that there is a freely accessible online supplement to the suggested textbook (*Clinical Sidelights to Core Concept in Anatomy*; <https://jackstern.org/ClinicalSidelights.html>) that emphasizes clinical correlates of many aspects of human anatomy that we learn about in this course. Many health professional students find this information to be both interesting and helpful in their studies. Be aware, however, that questions on the exams will not be clinically based, unless such clinical aspects are specifically emphasized in lecture.

TESTING AND GRADING

QUIZZES

Approximately midway through each of the three modules of the course there will be a short quiz. (Please note the 10:00 am start times in the included course schedule.) Quizzes will consist of a lecture-based component, with 15 multiple-choice questions, and a laboratory component, in which you will be asked to identify approximately 25 structures pinned or otherwise marked on various cadavers, isolated bones, and radiographic images. Keys to the quizzes will be posted shortly after the quizzes are completed. The questions on the quizzes will be of the same nature and degree of difficulty as those included in the examinations at the end of each module. The laboratory quizzes will cover all dissections that should have been completed by the time they are administered.

Quizzes are important because they give you an idea of the nature and degree of difficulty of the questions that you can expect on the upcoming examination for each module. They are also designed to encourage you to pace your learning properly instead of waiting until the end of the module to begin studying in earnest -- a tactic which experience indicates can seriously imperil a student's chances of successfully completing the course.

EXAMINATIONS

There will be an exam at the end of each module of the course. Each exam will consist of two equally weighted parts: a lecture exam consisting of 50 multiple-choice questions, and a lab practical entailing the identification of approximately 85 structures pinned or otherwise marked on various cadavers, isolated bones, and radiographic images. You will have 100 minutes for each lecture exam and one minute per station on each of the lab practicals. Expect to be asked to ID structures in **bold print** in the dissector (*Grant's Anatomy Lab*). Structures in **bold italic print** in the dissector will not be pinned for the lab exams, but you may be asked about them on the lecture exams.

COMPUTATION OF FINAL COURSE GRADES

Your final course grade will be determined by your scores on the three examinations. (The quizzes are practice exams and do not count toward your final grade.) We will report numerical grades for each of your exams, but a letter grade for your final course grade. The cut-offs for letter grades will be slightly different for graduate students (HBA 561/540) versus undergraduate students (HBA 461):

HBA 561/540	HBA 461
A 93–100	A 88–100
A- 90–92	A- 85–87
B+ 87–89	B+ 82–84
B 83–86	B 78–81
B- 80–82	B- 75–77
C+ 77–79	C+ 72–74
C 73–76	C 68–71
C- 65–72	C- 65–67
	D+ 62–64
	D 55–61
F <60	F <55

ACADEMIC DISHONESTY

Outside of examinations and quizzes you are encouraged to collaborate with your classmates in dissection and study of the course material. However, *during exams and quizzes* you **MAY NOT**: look at answers written or chosen by another student; communicate to other students information that might help them in answering questions; refer to notes, texts, or digital resources related to the subject matter being tested; use any other aid not explicitly permitted by the instructors; or communicate specific information about an exam or quiz to classmates who have not yet completed that exam or quiz. Note also that it is strictly forbidden to touch structures pinned in laboratory exams.

ANATOMY LABORATORY RULES OF CONDUCT

In this course, you are part of a team. You benefit from the dissections and knowledge of your classmates, but you also must contribute to the learning experience of others in the class. One important aspect of dissection-centered study is gaining an appreciation for the breadth of anatomical variation. As you walk around the laboratory outside of regular class hours (after finishing your own dissections so that others will be able to learn from your work), you must treat the dissections done by your classmates with consideration and respect. Do not dissect their cadavers! Do not allow their dissections to dry out! Do not move body parts away from their respective tables! Finally, do not disrupt other groups while they are engaged in their own study sessions! Observe, but do not interfere! Return bones and models to the tables in the front of the lab so that they are available to everyone! You are encouraged to come into the lab outside of official class hours for review, and these same rules apply during such review sessions.

CADAVER POLICY

Out of respect for the generous body donations that are bestowed upon the Department of Anatomical Sciences in furtherance of your professional and educational development, professional behavior is required at all times in the anatomy laboratory. Departmental policy is as follows:

“Individuals who donate their bodies to the Department of Anatomical Sciences at Stony Brook University do so with the desire and understanding that their remains will be used for educational or scientific purposes. Such donations deserve our admiration and deepest gratitude. To treat a cadaver in any way that does not serve educational or scientific purposes constitutes unprofessional behavior. One example is taking photographs (on film or electronically) that serve no educational or scientific purpose. Any student known to have taken such a photograph will be referred to the Committee on Academic Standing as having engaged in unprofessional behavior.”

SAFETY CONSIDERATIONS RELATED TO COVID-19

Excellent progress has been made in recent months -- both on the national and state levels -- in combatting the COVID-19 pandemic. Nevertheless, the risk posed by the SARS-CoV-2 virus remains a concern for us, especially in a large course such as this one. As recent evidence of this, one needs to look no further than the New York Yankees, who saw eight staff members and one player become infected in May of 2021, despite all having been fully vaccinated. Although documented cases of such "breakthrough" infections are relatively uncommon, we must nonetheless remain vigilant and cautious throughout our in-person activities this summer. Please find below important information relevant to this overarching goal of COVID-related safety.

Facilities & Environment

- Because social distancing is impossible in even the largest of the HSC's lecture halls with a class as large as this one, there will be no in-person lectures this summer. Instead, lectures will be pre-recorded and posted online for you to watch and listen to at your convenience.
- Our laboratory facilities are both spacious and well ventilated. We will be dissecting in two separate labs this summer, which together offer nearly 6350 sq. ft. of workspace, and both of these rooms have outstanding ventilation systems, providing about 8–10 complete air changes per hour.
- Rather than dissecting in groups of five to six students per cadaver as we normally do in this course, this summer you will be dissecting predominantly in groups of four students per cadaver, so as to minimize crowding around the dissection tables.
- During our regularly scheduled laboratory sessions this summer, we ask that you stay at your assigned tables. (This to facilitate effective contact tracing should any infections materialize over the course of the summer.) It will still be important that you look at other cadavers in order to appreciate anatomical variability, but this effort would be best reserved for times outside of our regular sessions, when the labs are less crowded.

COVID-19 Vaccination Status

- All members of the course teaching staff have been fully vaccinated.
- We also have reason to believe that most, if not all, of the students in this course will have been vaccinated by the time the course begins:
 - On May 10, 2021, Governor Cuomo mandated that all SUNY students will require proof of vaccination to attend in-person classes for the 2021/2022 academic year.
 - On May 13, 2021, Stony Brook University President Maurie McInnis briefed the campus community on the results of a recent SBU student survey, which revealed that 77% of students were already either fully or partially vaccinated, and that 16% more intended to get vaccinated as soon as possible.

COVID-19 Testing and Contact Tracing

- Regular COVID-19 testing remains mandatory for all students, staff, and faculty at Stony Brook University. (<https://www.stonybrook.edu/commcms/comingback/covidtesting.php>)

Face Masks

- Face masks continue to be required throughout the SBU Health Sciences Center. As such, face masks must be worn at all times in the anatomy laboratories this summer.

After more than a year of remote teaching and learning, we are all most eager to return in-person classes. In order to make this return a successful one, let's all do our part to ensure the safest teaching and learning environment possible.

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REGIONAL HUMAN ANATOMY 2021

MODULE 1: THORAX, ABDOMEN, PELVIS, PERINEUM

Day	Date	Lecture Topic	Lab Assignment: <i>Grant's Anatomy Lab</i> (online)
Tues	6/22	Introduction, Back	BACK—Introduction and Surface Anatomy <i>through</i> Deep Muscles of the Back (NOTE: We do not dissect the suboccipital triangle.)
Wed	6/23	Spinal Cord, Peripheral Nervous System	BACK—Vertebral Canal, Spinal Cord, and Meninges
Thur	6/24	Pectoral Region, Thoracic Wall, Introduction to Radiology	THORAX—Surface Anatomy <i>through</i> Removal of the Anterior Thoracic Wall
*Fri	6/25	Pleural Cavities, Lungs; Peripheral Nervous System Q & A	THORAX—Pleural Cavities <i>through</i> Lungs (NOTE: We do not dissect the bronchial tree.)
Mon	6/28	Middle Mediastinum, Heart	THORAX—Mediastinum <i>through</i> Internal Features of the Heart
Tues	6/29	Superior and Posterior Mediastina, Innervation of Thoracic Organs	THORAX—Superior Mediastinum <i>through</i> Posterior Mediastinum
Wed	6/30	QUIZ I (starting at 10:00 am) Abdominal Wall, Inguinal Region	ABDOMEN—Surface Anatomy <i>through</i> Male Scrotum and Spermatic Cord
Thur	7/1	Abdomen I	ABDOMEN—Reflection of the Abdominal Wall <i>through</i> Celiac Trunk, Stomach, Liver and Gallbladder
*Fri	7/2	Abdomen II	ABDOMEN—Superior Mesenteric Artery and Small Intestine <i>through</i> Removal of the Gastrointestinal Tract (NOTE: We do not inspect the inside of the intestines with the exception of the duodenum.)
Mon	7/5	No Lecture (Independence Day [observed])	No Lab (Independence Day [observed])
Tues	7/6	Posterior Abdominal Viscera and Wall; Diaphragm	ABDOMEN—Posterior Abdominal Viscera <i>through</i> Diaphragm
Wed	7/7	Perineum and Pelvis I	PELVIS AND PERINEUM—All: Skeleton of the Pelvis Male: Male External Genitalia and Perineum <i>through</i> Splitting of the Pelvis Female: Female External Genitalia and Perineum <i>through</i> Splitting of the Pelvis
Thur	7/8	Pelvis II	PELVIS AND PERINEUM— Male Pelvic Cavity <i>through</i> Pelvic Diaphragm Female Pelvic Cavity <i>through</i> Pelvic Diaphragm
*Fri	7/9	Review	REVIEW
Mon	7/12	EXAM I (starting at 12:00 pm)	

*A.M. class

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MODULE 2: HEAD AND NECK

Day	Date	Lecture Topic	Lab Assignment: <i>Grant's Anatomy Lab (online)</i>
Tues	7/13	Superficial Face, Scalp	HEAD AND NECK—Skull <i>through</i> Scalp (NOTE: Prepare for the craniotomies performed by our lab technician prior to tomorrow's dissection.)
Wed	7/14	Cranial Cavity	HEAD AND NECK—Interior of the skull <i>through</i> Cranial Fossae (NOTE: Place brains into buckets with alcohol [provided].)
Thur	7/15	CNS I	HEAD AND NECK—Gross Anatomy of the Brain and HANDOUT
*Fri	7/16	CNS II	HANDOUT
Mon	7/19	Orbit, Ear	HEAD AND NECK—Orbit <i>through</i> Ear (NOTE: Skip removal of eyeball.)
Tues	7/20	QUIZ II (starting at 10:00 am) Neck—Posterior Triangle, Anterior Triangle I	HEAD AND NECK—Skeleton of the Neck <i>through</i> Muscular Triangle
Wed	7/21	Neck—Anterior Triangle II, Root of Neck	HEAD AND NECK—Submandibular Triangle <i>through</i> Root of the Neck
Thur	7/22	Deep Face, Temporal Region	HEAD AND NECK—Parotid Region <i>through</i> Temporal Region
*Fri	7/23	Disarticulation of Head, Pharynx, Deep Neck	HEAD AND NECK—Disarticulation of the Head <i>through</i> Muscles of the Pharyngeal Wall
Mon	7/26	Bisection of Head, Nasal Cavity, Inside of Pharynx, Palate	HEAD AND NECK—Pharynx Inside <i>through</i> Hard Palate and Soft Palate
Tues	7/27	Oral Cavity, Larynx	HEAD AND NECK—Oral Region <i>through</i> Larynx
Wed	7/28	Review	REVIEW
Thur	7/29	EXAM II (starting at 12:00 pm)	

*A.M. class

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MODULE 3: LIMBS

Day	Date	Lecture Topic	Lab Assignment: <i>Grant's Anatomy Lab</i> (online)
Fri	7/30	No class (prepare for limbs...)	
Mon	8/2	Upper Limb Intro, Movements and Muscle Function, Scapular Region	UPPER LIMB—Surface Anatomy <i>through</i> Scapular Region (NOTE: Review Pectoral Region.)
Tues	8/3	Axilla, Brachial Plexus	UPPER LIMB—Axilla
Wed	8/4	Arm, Cubital Fossa	UPPER LIMB—Arm and Cubital Fossa
Thur	8/5	Forearm, Dorsum of Hand	UPPER LIMB—Flexor Region of the Forearm <i>through</i> Extensor Region of the Forearm and Dorsum of the Hand (NOTE: Skip Palm of the Hand, which we will do in the next lab.)
*Fri	8/6	Palm of Hand	UPPER LIMB—Palm of the Hand
Mon	8/9	Lower Limb Intro, Anterior Thigh, Medial Thigh	LOWER LIMB—Surface Anatomy <i>through</i> Medial Compartment of the Thigh
Tues	8/10	Quiz III (starting at 10:00 am) Gluteal Region, Posterior Thigh, Popliteal Fossa	LOWER LIMB—Posterior Superficial Veins and Cutaneous Nerves <i>through</i> Posterior Compartment of the Thigh and Popliteal Fossa
Wed	8/11	Leg, Dorsum of Foot	LOWER LIMB—Leg and Dorsum of the Foot <i>through</i> Anterior Compartment of the Leg and Dorsum of the Foot
Thur	8/12	Sole of Foot	LOWER LIMB—Sole of the Foot
*Fri	8/13	Joints	UPPER LIMB—Glenohumeral Joint and Elbow Joint and Proximal Radioulnar Joint LOWER LIMB—Knee Joint, Ankle Joint, and Joints of Inversion and Eversion
Mon	8/16	Review	REVIEW
Tues	8/17	EXAM III (starting at 12:00 pm)	

*A.M. class