Regional Human Anatomy—HBA 461/561/540

SUMMER 2022

COURSE INSTRUCTORS

Dr. Nathan Kley (Course Director): HSC Academic Tower A, T8-082, (631) 444-6912, nathan.kley@stonybrook.edu
Dr. Stephanie Maiolino: HSC Academic Tower A, T8-021, (631) 448-8570, stephanie.maiolino@stonybrook.edu
Dr. Andrew Moore: HSC Academic Tower A, T8-084, (631) 444-3119, andrew.j.moore@stonybrook.edu
Dr. Maureen O'Leary: HSC Academic Tower A, T8-088, (631) 444-3730, maureen.oleary@stonybrook.edu
Dr. Eric Wilberg: HSC Academic Tower A, T8-083, (631) 448-2492, eric.wilberg@stonybrook.edu
Ashley Parks: HSC Academic Tower A, T8-032, ashley.parks@stonybrook.edu

**Office hours for all course faculty this summer will be by appointment only and may be conducted either in person (in the offices listed above) or online via Zoom.*

FULL-TIME TEACHING ASSISTANTS

Gabriella Card gabriella.card@stonybrook.edu
Kevin Gilotra kevin.gilotra@stonybrookmedicine.edu
Daphne Hudson daphne.hudson@stonybrook.edu
Benjamin Krauss benjamin.krauss@stonybrookmedicine.edu
Ashna Raiker ashna.raiker@stonybrookmedicine.edu
Chiemeka Uwakwe chiemeka.uwakwe@stonybrookmedicine.edu

PART-TIME TEACHING ASSISTANTS

Shamanth Murundi shamanth.murundi@stonybrookmedicine.edu
Chimdindu Obinero chimdindu.obinero@stonybrookmedicine.edu

VOLUNTEER TEACHING ASSISTANTS

Morgan Davis, Meenu Johnkutty, Ann Kogosov, Emily Peterson, Sujith Swarna, Stacey Wong

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 ($119.99 for one year of online access, purchased through RedShelf: https://redshelf.com/item/33610). 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 21st). 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 to students in this course at a 25% discount [$62.24] from Elsevier; https://evolve.elsevier.com/cs/product/9780323393225?role=student&dmnum=70462), or in digital format as an e-book (600 pp.; $65.99 list price, but available at a 25% discount [$49.49] from Elsevier; 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 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 ($10 for black-and-white editions; $20 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 SHP 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 2022") under your "My Courses" menu.

ZOOM

Although it is our expectation to conduct all Summer 2022 lectures and laboratories 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 may in some instances be used as a platform for "office hours" meetings, and it could potentially be used for other purposes as well as situations dictate.

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 SHP 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 $15 per box of 100. *You will be responsible for supplying your own face masks, which must be worn at all times in the lecture hall and laboratory -- and indeed, throughout the entire Health Sciences Center. (For additional details, please see "Safety Considerations Related to COVID-19" below.)*

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

The course will run from Tuesday, June 21st through Tuesday, August 16th and will generally meet every weekday from either 1:00 pm to 5:00 pm (Mondays through Thursdays) or 8:00 am to noon (Fridays).

The first class will be on Tuesday, June 21st, at 1:00 pm in Lecture Hall 1 (HSC L2). ***PLEASE BRING ALL YOUR LABORATORY GEAR ON THE FIRST DAY AND BE PREPARED TO BEGIN DISSECTION!!!*** READINGS FOR JUNE 21st 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.)

There will be three major exams in this course (see "Testing and Grading" below) -- *all starting at 1:00 pm* -- on Monday 7/11 (Module 1), Thursday 7/28 (Module 2), and Tuesday 8/16 (Module 3). There will also be three practice quizzes -- *all starting at 10:00 am* -- on Wednesday 6/29 (Module 1), Tuesday 7/19 (Module 2), and Tuesday 8/9 (Module 3).

HOW TO STUDY

For lecture material, rely primarily on the posted lecture slides and the notes that you take on these in class, 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 that you selected. 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 30 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 80–85 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 toward the end of each class (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

Although safety concerns related to the COVID-19 pandemic forced us to modify our delivery of this course in both 2020 (100% online delivery) and 2021 (hybrid delivery -- online lectures / in-person, socially distanced laboratories), we expect to return to a more traditional delivery of the course (100% in person) in 2022. Several safety-related considerations factor into facilitating this shift back toward normalcy, while also ensuring the safest possible learning environment for all course participants this summer:

VACCINATIONS

In accordance with New York State mandates, all students attending in-person classes at Stony Brook University must be fully vaccinated and boosted against COVID-19. The same is true of the teaching faculty. Consequently, every person who will be participating in this course will be fully vaccinated and boosted against COVID-19.

FACE MASKS

The New York State Department of Health continues to require the use of face masks in healthcare facilities statewide. Because of the direct physical connections between Stony Brook University Hospital and the SBU Health Sciences Center (HSC) -- and the many patient-facing healthcare workers regularly shuttling between the two facilities -- the use of face masks continues to be required throughout the HSC. As such, face masks must be worn at all times in the anatomy laboratory and lecture halls this summer.

SURVEILLANCE TESTING

SBU continues to conduct regular COVID-19 surveillance testing for both students and faculty. For more details about testing requirements and scheduling for students, please see the most up-to-date information posted by SBU Student Health Services (https://www.stonybrook.edu/commcms/studentaffairs/shs/services/COVID_Testing/).

FACILITIES & ENVIRONMENT

We will be spending approximately three-quarters of our class time this summer in the Gabor Inke Anatomy Laboratory, an exceptionally spacious (~5000 sq. ft.) facility with an outstanding ventilation system that provides about 8–10 complete air changes per hour. The remainder of our class time will be spent in the largest lecture hall available in the entire Health Sciences Center (HSC LH1).

REQUIRED SYLLABUS STATEMENTS

The University Senate Undergraduate and Graduate Councils have authorized that the following required statements appear in all teaching syllabi (graduate and undergraduate courses) on the Stony Brook Campus.

STUDENT ACCESSIBILITY SUPPORT CENTER STATEMENT

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact the Student Accessibility Support Center, Stony Brook Union Suite 107, (631) 632-6748, or at sasc@stonybrook.edu. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

ACADEMIC INTEGRITY STATEMENT

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty is required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Professions, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty please refer to the academic judiciary website at http://www.stonybrook.edu/commcms/academic_integrity/index.html

CRITICAL INCIDENT MANAGEMENT

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Student Conduct and Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.

HBA 461/561/540
***REGIONAL HUMAN ANATOMY* 2022**

MODULE 1: THORAX, ABDOMEN, PELVIS, PERINEUM

Day	Date	Lecture Topic	Lab Assignment: *Grant's Anatomy Lab* (online)
Tues	6/21	Introduction, Back	BACK—Introduction and Surface Anatomy *through* Deep Muscles of the Back (NOTE: We do not dissect the suboccipital triangle.)
Wed	6/22	Spinal Cord, Peripheral Nervous System	BACK—Vertebral Canal, Spinal Cord, and Meninges
Thur	6/23	Pectoral Region, Thoracic Wall, Introduction to Radiology	THORAX—Surface Anatomy *through* Removal of the Anterior Thoracic Wall
*Fri	6/24	Pleural Cavities, Lungs; Peripheral Nervous System Q & A	THORAX—Pleural Cavities *through* Lungs (NOTE: We do not dissect the bronchial tree.)
Mon	6/27	Middle Mediastinum, Heart	THORAX—Mediastinum *through* Internal Features of the Heart
Tues	6/28	Superior and Posterior Mediastina, Innervation of Thoracic Organs	THORAX—Superior Mediastinum *through* Posterior Mediastinum
Wed	6/29	**QUIZ I (starting at 10:00 am)** Abdominal Wall, Inguinal Region	ABDOMEN—Surface Anatomy *through* Male Scrotum and Spermatic Cord
Thur	6/30	Abdomen I	ABDOMEN—Reflection of the Abdominal Wall *through* Celiac Trunk, Stomach, Liver and Gallbladder
*Fri	7/1	Abdomen II	ABDOMEN—Superior Mesenteric Artery and Small Intestine *through* Removal of the Gastrointestinal Tract (NOTE: We do not inspect the inside of the intestines with the exception of the duodenum.)
Mon	7/4	No Lecture (Independence Day)	No Lab (Independence Day)
Tues	7/5	Posterior Abdominal Viscera and Wall; Diaphragm	ABDOMEN—Posterior Abdominal Viscera *through* Diaphragm
Wed	7/6	Perineum and Pelvis I	PELVIS AND PERINEUM—All: Skeleton of the Pelvis Male: Male External Genitalia and Perineum *through* Splitting of the Pelvis Female: Female External Genitalia and Perineum *through* Splitting of the Pelvis
Thur	7/7	Pelvis II	PELVIS AND PERINEUM— Male Pelvic Cavity *through* Pelvic Diaphragm Female Pelvic Cavity *through* Pelvic Diaphragm
*Fri	7/8	Review	REVIEW
Mon	7/11	**EXAM I (starting at 1:00 pm)**	

*A.M. class

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***REGIONAL HUMAN ANATOMY* 2022**

MODULE 2: HEAD AND NECK

Day	Date	Lecture Topic	Lab Assignment: *Grant's Anatomy Lab* (online)
Tues	7/12	Superficial Face, Scalp	HEAD AND NECK—Skull *through* Scalp (NOTE: Prepare for the craniotomies performed by our lab technician prior to tomorrow's dissection.)
Wed	7/13	Cranial Cavity	HEAD AND NECK—Interior of the skull *through* Cranial Fossae (NOTE: Place brains into buckets with alcohol [provided].)
Thur	7/14	CNS I	HEAD AND NECK—Gross Anatomy of the Brain and HANDOUT
*Fri	7/15	CNS II	HANDOUT
Mon	7/18	Orbit, Ear	HEAD AND NECK—Orbit through Ear (NOTE: Skip removal of eyeball.)
Tues	7/19	**QUIZ II (starting at 10:00 am)** Neck—Posterior Triangle, Anterior Triangle I	HEAD AND NECK—Skeleton of the Neck *through* Muscular Triangle
Wed	7/20	Neck—Anterior Triangle II, Root of Neck	HEAD AND NECK—Submandibular Triangle *through* Root of the Neck
Thur	7/21	Deep Face, Temporal Region	HEAD AND NECK—Parotid Region *through* Temporal Region
*Fri	7/22	Disarticulation of Head, Pharynx, Deep Neck	HEAD AND NECK—Disarticulation of the Head *through* Muscles of the Pharyngeal Wall
Mon	7/25	Bisection of Head, Nasal Cavity, Inside of Pharynx, Palate	HEAD AND NECK—Pharynx Inside *through* Hard Palate and Soft Palate
Tues	7/26	Oral Cavity, Larynx	HEAD AND NECK—Oral Region *through* Larynx
Wed	7/27	Review	REVIEW
Thur	7/28	**EXAM II (starting at 1:00 pm)**	

*A.M. class

HBA 461/561/540
***REGIONAL HUMAN ANATOMY* 2022**

MODULE 3: LIMBS

Day	Date	Lecture Topic	Lab Assignment: *Grant's Anatomy Lab* (online)
Fri	7/29	No Lecture (prepare for limbs…)	No Lab (prepare for limbs…)
Mon	8/1	Upper Limb Intro, Movements and Muscle Function, Scapular Region	UPPER LIMB—Surface Anatomy *through* Scapular Region (NOTE: Review Pectoral Region.)
Tues	8/2	Axilla, Brachial Plexus	UPPER LIMB—Axilla
Wed	8/3	Arm, Cubital Fossa	UPPER LIMB—Arm and Cubital Fossa
Thur	8/4	Forearm, Dorsum of Hand	UPPER LIMB—Flexor Region of the Forearm *through* 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	8/5	Palm of Hand	UPPER LIMB—Palm of the Hand
Mon	8/8	Lower Limb Intro, Anterior Thigh, Medial Thigh	LOWER LIMB—Surface Anatomy *through* Medial Compartment of the Thigh
Tues	8/9	**Quiz III (starting at 10:00 am)** Gluteal Region, Posterior Thigh, Popliteal Fossa	LOWER LIMB—Posterior Superficial Veins and Cutaneous Nerves *through* Posterior Compartment of the Thigh and Popliteal Fossa
Wed	8/10	Leg, Dorsum of Foot	LOWER LIMB—Leg and Dorsum of the Foot *through* Anterior Compartment of the Leg and Dorsum of the Foot
Thur	8/11	Sole of Foot	LOWER LIMB—Sole of the Foot
*Fri	8/12	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	8/15	Review	REVIEW
Tues	8/16	**EXAM III (starting at 1:00 pm)**	

*A.M. class