

Course Syllabus

Time: 09/05/2018-12/14/2018; MWF; 1:30-6:00 pm

Description: Lectures, detailed laboratory dissections, and prosection demonstrations provide a thorough exploration of the gross anatomical structure and function of the human body. Fundamental principles of bioengineering are employed to promote analytical approaches to understanding the body's design. The embryology of major organ systems is presented, together with certain references to phylogenetic development, as a basis for comprehending anatomical complexity. Clinical lecture topics include the anatomical basis of abnormal anatomy, organ system research, and current challenges in surgery, radiology, and other medical fields where biotechnology plays an important role.

Prerequisites: Enrollment priority provided to HST students; others by permission. HST students register under HST.010, graded P/D/F. Lab fee. Enrollment restricted to graduate students.

Faculty: Lee Gehrke (lgehrke@mit.edu); Trudy Van Houten (trudy_vanhouten@hms.harvard.edu); Breda Zimkus (bzimkus@oeb.harvard.edu); Mohini Lutchman (mohini_lutchman@hms.harvard.edu); Sabine Hildebrandt (sabine.hildebrandt@childrens.harvard.edu); Katelyn Burkhart (TA) (katelynb@mit.edu)

Course Summary:

Date	Details	
Wed Sep 5, 2018	Course Introduction (Gehrke)	1:30pm to 2pm
	Lab Table Assignments	2:15pm to 2:45pm
	History and Ethics of Anatomy (Hildebrandt)	3pm to 3:45pm
	Intro. to Laboratory (Gehrke)	4pm to 4:30pm
Fri Sep 7, 2018	Anatomy of Thorax (Zimkus)	1:30pm to 2:30pm
	LAB: Chest Wall: Tank, 16th edition: LAB 1-4 (read in advance); 73-75 (at skeleton); 29 (Dissection instructions 1-11); 31-34 (pectoral region); 75-76; Tank, 15th edition: LAB 1-4; 63,64 (at skeleton); 21-22 (Instructions 1-11); 26 (pectoral)-30	2:45pm to 6pm

Date	Details	
Mon Sep 10, 2018	<u>PRO (Zimkus): Superficial Anterior Thoracic Wall (half class)</u>	3:15pm to 6pm
	<u>Introduction to Peripheral Nerves (Gehrke)</u>	1:30pm to 2:30pm
	<u>Radiology: Breast & Chest Imaging (Slanetz)</u>	2:30pm to 3:30pm
	<u>LAB: Removal of anterior chest wall; Lungs: 16th: 77 (removal of anterior thoracic wall; pleural cavities) - 83 (mediastinum); 15th: 15th: 66 (removal of anterior thoracic wall) - 72 (mediastinum)</u>	3:30pm to 6pm
Wed Sep 12, 2018	<u>PRO (Zimkus): Superficial Anterior Thoracic Wall (half class)</u>	3:30pm to 6pm
	<u>Heart Anatomy : Bovine Heart in-lecture Prosection</u>	1:30pm to 2:30pm
Fri Sep 14, 2018	<u>LAB: Anterior Mediastinum and Middle Mediastinum: 15th: 72-82 (to superior mediastinum); 16th: 83-93 (to superior mediastinum)</u>	2:45pm to 6pm
	<u>Organogenesis and Heart Development (Gehrke)</u>	1:30pm to 2:30pm
	<u>LAB: Superior Mediastinum and Posterior Mediastinum: 15th: 82-87; 16th: 93-98</u>	2:45pm to 6pm
Mon Sep 17, 2018	<u>PRO (Hildebrandt): Posterior Mediastinum</u>	3pm to 6pm
	<u>Radiology: Intro to Top 25 Cases (Slanetz)</u>	1:30pm to 2:30pm
	<u>LAB: Superficial Back: 15th: 5-9 (stop at superficial muscles); 16th: 5-10 (stop at superficial muscles)</u>	2:45pm to 6pm
Wed Sep 19, 2018	<u>Biomechanics of Carrying (Yegian)</u>	1:30pm to 2:30pm
	<u>LAB: Back Musculature: 15th: 9-15 (vertebral canal); 16th: 10-17</u>	2:45pm to 6pm
Fri Sep 21, 2018	<u>Spinal Cord and Disc Defects (Gehrke, Lutchman, Burkhardt)</u>	1:30pm to 2:30pm

Date	Details	
Mon Sep 24, 2018	<u>LAB: Vertebral Canal, Spinal Cord, Scapular Region: 15th: 15-19; 24 (scapular region) - 26 (pectoral region); 16th:18-22; 23-27 (Note: Posterior Compartment of the Arm included)</u>	2:45pm to 6pm
	<u>PRO (Lutchman): Vertebral Column and Spinal Cord</u>	2:45pm to 6pm
	<u>Organization of Upper Extremity (Van Houten)</u>	1:30pm to 2:30pm
	<u>LAB: Upper Extremity and Brachial Plexus: 15th: 21-24; 30 (axilla) - 34 (arm and cubital fossa); 16th: 28-31 (pectoral region); 35 (axilla)-39 (arm)</u>	2:45pm to 6pm
	<u>PRO (Hildebrandt): Shoulder and Brachial Plexus</u>	3pm to 6pm
	<u>Development of the Extremities (Zimkus)</u>	1:30pm to 2:30pm
Wed Sep 26, 2018	<u>LAB: Arm and Forearm Flexors: 15th: 34-46 (palm of the hand); 16th: 39-51 (palm of the hand)</u>	2:45pm to 6pm
	<u>PRO (Lutchman): (Arm, Forearm Flexors)</u>	2:45pm to 6pm
Fri Sep 28, 2018	<u>Func. Anatomy Hand (Van Houten)</u>	1:30pm to 2:30pm
	<u>LAB: Palm of the Hand: 15th: 46-53 (extensor region); 16th: 52-59 (extensor region)</u>	2:45pm to 6pm
	<u>PRO (van Houten): Palm of Hand</u>	2:45pm to 6pm
Mon Oct 1, 2018	<u>Hand Surgery; Brachial Plexus Injury Management (Vuillermot)</u>	1:30pm to 2:30pm
	<u>LAB: Extensor Surfaces; Joints of Upper Extremity: 15th: 53-62; 16th: 59-71</u>	2:45pm to 6pm
	<u>PRO (Van Houten): Arm, Forearm Extensors; Joints of Upper Extremity</u>	2:45pm to 6pm
Wed Oct 3, 2018	<u>Organization of Lower Extremity (Van Houten)</u>	1:30pm to 2:30pm
	<u>LAB: Lower Extremity; Superficial & Anterior Thigh: 15th: 165-176; 16th: 183-196</u>	2:45pm to 6pm

Date	Details	
Fri Oct 5, 2018	PRO (Lutchman): Anterior & Medial Thigh	2:45pm to 6pm
	Surgical Anatomy of Shoulder and Upper Extremity: Physical Exam of Upper Extremity (Price)	1:30pm to 2:30pm
	LAB: Gluteal Region; Posterior Thigh: 15th: 176-184 (leg and dorsum of foot); 16th: 197-205 (posterior compartment of the leg)	2:45pm to 6pm
	PRO (Hildebrandt): Gluteal Region; Hamstrings; Popliteal Fossa	2:45pm to 6pm
Mon Oct 8, 2018	Columbus Day (regional holiday)	12am to Oct 9 at 12am
Wed Oct 10, 2018	Sports Medicine (Price)	1:30pm to 2:30pm
	LAB: Leg: 15th: 184-193; 16th: 205-216 (sole of the foot)	2:45pm to 6pm
	PRO (Lutchman): Leg (all compartments); Dorsum and Sole of Foot	3pm to 6pm
Fri Oct 12, 2018	Radiology: Reading MSK images (Wu)	1:30pm to 2:30pm
	LAB: Sole of Foot; Joints of Lower extremity: 15th: 193-203; 16th: 216-227	2:45pm to 6pm
	Self-Directed Knee Prosecution	2:45pm to 5:45pm
	Radiology: Small Group MSK Radiology (Hochman, Wu, Slanetz)	2:45pm to 5:15pm
Mon Oct 15, 2018	Review extremities (Van Houten)	12:30pm to 1:30pm
	Radiology: Review Top 25 Chest/MSK Images (Slanetz)	1:30pm to 2:30pm
	Review Thorax and Development (Zimkus)	2:30pm to 3:30pm
	Review Organogenesis/Heart Development	3:30pm to 4:30pm
	Practice Slide Identifications (Gehrke)	4:30pm to 5pm

Date	Details	
	<u>Mohini Spinal Anatomy Review</u>	5pm to 5:30pm
Wed Oct 17, 2018	<u>Mid-term examination</u>	1:30pm to 3pm
	<u>Development of GI System (Gehrke)</u>	1:30pm to 2:30pm
Fri Oct 19, 2018	<u>LAB: Abdominal wall; inguinal region: 15th: 89-98 (reflection of the abdominal wall); 16th: 99-110 (reflection of the abdominal wall)</u>	2:45pm to 6pm
	<u>GI Endoscopy (Dr. Steven Lin)</u>	1:30pm to 2:30pm
Mon Oct 22, 2018	<u>LAB: Peritoneum; Peritoneal cavity: 15th: 98-107 (SMA); 16th: 110-122 (SMA)</u>	2:45pm to 6pm
	<u>Radiology: Abdominal Imaging (Dr. Slanetz & Colleagues); Pediatric Anomalies</u>	1:30pm to 2:30pm
Wed Oct 24, 2018	<u>LAB: Mesenteric Vessels; Abdominal viscera: 15th: 107-116 (posterior abdominal viscera); 16th: 122-131 (posterior abdominal viscera)</u>	2:45pm to 6pm
	<u>PRO (Zimkus): Abdominal Viscera, Celiac Axis, Mesenteric Vessels, Portal Vein; Posterior Abdominal Wall</u>	2:45pm to 6pm
	<u>Development of UG System (Zimkus)</u>	1:30pm to 2:30pm
Fri Oct 26, 2018	<u>LAB: Posterior abdominal viscera; inferior diaphragm: 15th: 116-124; 16th: 131-140</u>	2:45pm to 6pm
	<u>Organization of Pelvis and Perineum (Hildebrandt)</u>	1:30pm to 2:30pm
	<u>LAB: Pelvis & Perineum Part 1: 15th: 125-129 or 16th: 141-145 read outside of class. We will not dissect the anal triangle/ ischiorectal fossa (pp 127-129); that will be covered in the model building exercise; See details below for male/female dissec</u>	2:30pm to 5:45pm
	<u>PRO (Hildebrandt): Pelvis & Perineum</u>	2:45pm to 6pm

Date	Details	
Wed Oct 31, 2018	Pelvis Model Building with BI OB-Gyn Faculty	1:30pm to 5:30pm
Fri Nov 2, 2018	Radiology: Top 25 Abdo/Pelvis Cases	1:30pm to 2:30pm
	LAB: Pelvis and Perineum Part 2: 15th: Male: 140 (urinary bladder) - 147 (female ext. genitalia); 15th: Female: 157 (urinary bladder) - 163; 16th: Male: 158 (urinary bladder) - 165 (female ext. genitalia); 16th: Female: 175 (urinary bladder) - 182	2:30pm to 5:30pm
	Radiology: Small Group Radiology (Gee, others TBD, Slanetz)	2:30pm to 5pm
	Otolaryngology	1:30pm to 2:30pm
Mon Nov 5, 2018	LAB: Face, Scalp: 15th: 218 (head)-226 (parotid region); 228 (scalp)-229; 16th: 244 (head)-252 (parotid region); 254 (scalp)-256 (temporal region)	2:45pm to 5:30pm
	PRO (Van Houten): Face	2:45pm to 5:30pm
	Distribute Skulls	1pm to 1:30pm
	Cranial Cavity (Gehrke)	1:30pm to 2:15pm
Wed Nov 7, 2018	Intro to Cranial Nerves (Van Houten)	2:15pm to 2:45pm
	LAB: Interior of skull; meninges; cranial nerves: 15th: 235-245 (orbit); 16th: 263-275	2:45pm to 6pm
	Organization of the Neck (Van Houten)	1:30pm to 2:30pm
Fri Nov 9, 2018	LAB: Triangles of the neck: 15th: 205-215 (end at "thyroid and parathyroids"); 16th: 229-239	2:45pm to 6pm
	PRO (Van Houten): Neck Triangles; Cerv. Viscera	2:45pm to 6pm
Mon Nov 12, 2018	Veteran's Day (observed)	1am to Nov 13 at 12am
Wed Nov 14, 2018	Eye & Orbit (Lutchman)	1:30pm to 2:30pm

Date	Details	
Fri Nov 16, 2018	<u>LAB: Eye and Orbit: 15th: 245- 252; 16th: 276-283 (disarticulation of the head)</u>	2:45pm to 6pm
	<u>PRO: Fresh Bovine Eye (self-directed)</u>	2:45pm to 6pm
	<u>Interim Review: Gut Development (Gehrke) and Urogenital Development (Zimkus)</u>	1:30pm to 2:30pm
	<u>LAB: Thyroid region; parotid region: 15th: 215-218 (head); 226-228 (scalp); 16th: 240-244 (head); 252- 254 (scalp)</u>	2:30pm to 6pm
Mon Nov 19, 2018	<u>Anatomy-Pathology Correlation with Drs. Mitchell and Padera</u>	3pm to 6pm
	<u>Radiology: Intro to Head/Neck Imaging (Dr. Elisa Flower)</u>	1:30pm to 2:30pm
	<u>Development of Head and Neck (Stankovic)</u>	2:30pm to 3:30pm
	<u>LAB: Temporal Region; infratemporal fossa: 15th: 230-235; 16th: 256-262</u>	3:30pm to 6pm
Wed Nov 21, 2018	<u>Thanksgiving Break: No Class</u>	
	<u>Thanksgiving Break: No Class</u>	
Mon Nov 26, 2018	<u>Swallowing and Mastication (Bhatt)</u>	1:30pm to 2:30pm
	<u>Review: Pelvis (Hildebrandt) & Org. Neck (van Houten)</u>	2:30pm to 3:30pm
	<u>LAB: Disarticulation of Head: 15th: 252-259 (nose and nasal cavity); 16th: 283-290 (nose and nasal cavity)</u>	3:30pm to 6pm
Wed Nov 28, 2018	<u>Clinical Anatomy of the Oral Cavity (Abdul-Aziz)</u>	1:30pm to 2:30pm
	<u>LAB: Nasal cavities and palate: 15th: 259-268; 16th: 290-299</u>	2:45pm to 6pm
	<u>PRO (Lutchman): Bisected Head, Palate, Pharynx</u>	2:45pm to 6pm

Date	Details	
Fri Nov 30, 2018	<u>Larynx (Kobler)</u>	1:30pm to 2:30pm
	<u>LAB: Oral region and larynx: 15th: 268-274 (ear); 16th: 300-307 (ear)</u>	2:40pm to 6pm
Mon Dec 3, 2018	<u>PRO: Fresh Bovine Larynx (Supplementary Instructions)</u>	2:45pm to 6pm
	<u>Review: Eye & Orbit (Lutchman) & Abdominal/Pelvic Vasculature (Zimkus)</u>	12:30pm to 1:15pm
Wed Dec 5, 2018	<u>Middle Ear and Inner Ear; Parasympathetic Ganglia (Gehrke / Van Houten)</u>	1:30pm to 2:30pm
	<u>LAB: Middle and inner ear: 15th: 274-278; 16th: 307-312</u>	2:45pm to 6pm
Fri Dec 7, 2018	<u>PRO (Hildebrandt and Lutchman): Temporal Bone Prosection</u>	2:45pm to 5:45pm
	<u>Face Transplantation Surgery (Pomahac)</u>	1:30pm to 2:30pm
Fri Dec 14, 2018	<u>Radiology: Top 25 Radiology Jeopardy (Slanetz and Gee)</u>	2:45pm to 4:30pm
	<u>Anatomy Memorial Service</u>	5:15pm to 6:45pm
	<u>Anatomical Review of Cranial Nerves (Van Houten)</u>	1:30pm to 2:15pm
	<u>Clinical Cranial Nerve Review (Gonzalez-Castro)</u>	2:30pm to 4pm
	<u>Review of Head/Neck Development (Zimkus) and Practice Identifications (Gehrke)</u>	4:15pm to 5:15pm
	<u>Anatomy Final Exam</u>	9am to 12pm
	<u>Celebration</u>	12pm to 2pm