1. COURSE OVERVIEW

The central goal of the Structure of the Human Body course is to provide students with a firm understanding of the general anatomy and development of the human body, including the osteology, musculature, circulatory system, viscera, and the human nervous system, including the cortex, brainstem, cerebellum, deep brain structures, spinal cord, peripheral nerves, sensory systems, motor systems, and the autonomic nervous system. This will be achieved through demonstrations using prosected cadavers, student dissection, anatomical models, plastinated specimens, online learning modules (SoftChalk, Camtasia, etc.), QR code self-directed learning, labeled gross specimens and models, medical imaging, lecture, guided review sessions, and self-directed learning. Our course specific goals and objectives can be found on the SHB Homepage under Course/Clerkship Information or at [http://www.stritch.luc.edu/lumen/meded/grossanatomy/homepage/goals_objectives.pdf](http://www.stritch.luc.edu/lumen/meded/grossanatomy/homepage/goals_objectives.pdf).
2. METHODS OF INSTRUCTION:

A. Lectures

Most lectures will last 50 minutes; some shorter or longer depending on the faculty member. For some lectures, a short video will be provided online. These videos represent a condensed version of the corresponding lecture and may prove useful when viewed ahead of time. In the lecture, students will be challenged to answer 4 or more "boards-like" questions. The correct and incorrect answers to these questions will be discussed. The approach to covering these questions may vary between lecturers. Some may use an audience response system; some may pit students against each other in a "game-like" setting. Thus, adequate background preparation by the student is necessary in order to benefit from lectures.

A textbook is recommended for reference for more detailed personal research, although a student can excel in the course by attending the lectures/lecture videos, using the LUMEN teaching aides, attending labs, and studying the handouts.

Clinical correlation lectures illustrate the clinical applications of gross anatomy and will not be recorded. Most other lectures are recorded and can be viewed on LUMEN.

B. Laboratory Sessions

Anatomy is a visual and practical discipline, and therefore relies heavily on the laboratory as a learning forum. Please remember that a rewarding experience for the student of gross anatomy is largely dependent upon the wisdom, foresight and social conscience of those who donate their bodies for research and education after death. Make the most of this unique and important learning experience.

Students will rotate through each lab in groups of 19-20 students. Each group will spend 40 minutes on a prosected cadaver with one of three instructors, reviewing the Should-Find List. **Attendance in the laboratory is mandatory, and attendance will be taken daily.** Students are allowed 2 unexcused absences. [See section 3. Attendance and Absences for more details]. Violation of laboratory rotation protocol may also result in a “Professionalism” ding.

Students interested in dissection may work on two cadavers housed in Bay C.

C. Independent Learning, Computer-Based Instruction and other Learning

Resources:

The Loyola University Medical Education Network (LUMEN) is designed to promote the use of multimedia in the integration of the basic and clinical sciences. A variety of other teaching aids are available, including:
• Dissection Videos -- those found in LUMEN.
• Skeletal material -- available for study in the Gross Anatomy Laboratory room.
• Epoxy-embedded sectioned human cadaver -- on display in the LL hallway.
• Gross anatomy models-- these are to be studied in the laboratory by individuals or in small groups, outside of class time.
• Prosected cadavers – available in lab.
• Cadavers available for dissection – available in lab.
• Models and specimens labeled with QR codes.
• Soft chalk, self-assisted modules (SAMS).

3. ATTENDANCE AND ABSENCES

Attendance and participation in lecture is expected. Laboratory attendance is mandatory, and attendance will be taken daily. Students must attend lab with their assigned lab group, during their scheduled lab time. Students are not permitted to change groups or attend another lab time other than that which they are scheduled to attend.

Unexcused absences will result in a mark for “Concern” within the “Professionalism” Competency Assessment of the student grade, and will result in the loss of 1 point per missed lab from the student’s final grade. Violation of laboratory rotation protocol may also result in a “Professionalism” ding. If you will be absent for a lab session, you must email the Course Director, and copy the Course Coordinator, and follow the protocol listed in the Academic Policy Manual:

Per the Academic Policy Manual: Petitions for approved absences for serious but non-emergent reasons from activities in which attendance is mandatory (i.e. labs, quizzes, exams) must be submitted prior to the start of the course, if possible, but in no case less than one month before the date in question. Such petitions are to be reviewed by the Course Director, Course Coordinator, and Associate Dean for Student Affairs or designate. A student must have a serious reason for an excused absence or request for a change in an exam date. The petition should detail the nature of the conflict and available supporting documentation should be attached (e.g., copy of a jury summons or invitation to present a poster). A petition for permission to be absent is a request, requires review, and is not automatically approved simply by submission.

Students who are ill or have other extenuating circumstances (i.e. death in the family) prior to or on an scheduled quiz or exam day must contact the Dean of Student Affairs and the Course Director prior to the exam to obtain an excused absence. Excused absences are granted according to University policy, proper documentation will be required, and no exceptions will be made. You must also notify Agape Lamberis, Course Coordinator, so that alternative arrangements can be made.
4. IMPORTANT DATES

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>Sept. 18</td>
<td>Opening Blessing Ceremony</td>
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<tr>
<td>Sept. 19</td>
<td>First Day of SHB lectures &amp; lab</td>
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<tr>
<td>Sept 29</td>
<td>Quiz 1</td>
</tr>
<tr>
<td>Oct. 10</td>
<td>Exam 1</td>
</tr>
<tr>
<td>Oct. 30</td>
<td>Exam 2</td>
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<tr>
<td>Nov. 10</td>
<td>Quiz 2</td>
</tr>
<tr>
<td>Nov. 17</td>
<td>Exam 3</td>
</tr>
<tr>
<td>Nov. 27</td>
<td>Closing Blessing Ceremony</td>
</tr>
<tr>
<td>Dec. 8</td>
<td>Quiz 3 (Neuro)</td>
</tr>
<tr>
<td>Dec. 14</td>
<td>Exam 4 (Neuro)</td>
</tr>
</tbody>
</table>

5. TEXT BOOKS:

Most texts are available electronically via the Health Sciences Library website.

RECOMMENDED TEXTS:


RECOMMENDED FLASHCARDS:

6. **QUIZZES AND EXAMS**

**A. Quizzes**

Three 30-question multiple-choice quizzes will be given (15 points each). The first two quizzes will deal solely with muscle–nerve relationships of the upper and lower extremity and some rudimentary embryology. The final quiz will consist of 30 questions on brain anatomy. All quizzes will be given in a Scantron format. Please bring a #2 pencil to each quiz and make sure to arrive ON TIME.

**B. Written/Laboratory Exams**

The four written exams will consist of 100 questions each. Seventy multiple-choice type questions will be, in part, following formats suggested by the USMLE Board of Examiners, along with 30 practical style identification questions. Exams are completed in an online format and will also contain practical images, radiological images, cross-sectional images, drawings, and other visuals. Exam 4 will focus on neuroanatomy. The following are examples of typical gross anatomy written exam questions:

Example using a clinical scenario:

1. A man pushes a piano across the floor. At the wrist, the force is transmitted from the carpal bones to the radius. At the elbow, the force is transmitted from the ulna to the humerus. Which of the following structures transmits the force from the radius to the ulna?
   - A. annular ligament
   - B. bicipital aponeurosis
   - C. flexor retinaculum
   - D. intermuscular septum
   - E. interosseous membrane

Example question:

2. The cords of the brachial plexus are named for their position relative to which structure?
   - A. brachial artery
   - B. axillary vein
   - C. axillary artery
   - D. Subclavian artery
   - E. pectoralis minor muscle

Thirty identification (practical-style) questions will be included in each exam. These will consist of an image plus 5 answer choices.
Sample digital practical question:

3. Identify the structure at the tip of the yellow arrow:
   A. Extensor digitorum m.
   B. Extensor carpi radialis longus m.
   C. Extensor carpi radialis brevis m.
   D. Extensor carpi ulnaris m.
   E. Flexor carpi ulnaris m.

C. Academic Honesty
Per the Academic Policy Manual, students must practice academic honesty in all examinations and assignments. Students who do not follow this practice will be reported to Student Affairs for further review which may lead to dismissal.

7. REVIEW SESSIONS
At the end of each week, faculty will hold a scheduled review to discuss the past week’s lectures and labs. It is highly recommended that students take advantage of this learning opportunity and attend these sessions.

8. POST-EXAM REVIEWS
After the grading of Exams 1, 2 and 3, students will have the opportunity to review the questions that they answered incorrectly during an Exam Review. Students are to follow exam review protocol, which includes leaving personal belongings in student lockers or the front of the room. Laptops, tablets, cellphones and other electronic devices are not permitted in the Exam Review. Students may write on their review, but they will be returned to the Course Coordinator at the end of the session.
9. **GRADING**

The final course grade will be based on your assessment of the Medical Knowledge and Professionalism competencies. The graded components are the four exams and three quizzes (less any penalties for lab absences); the maximum number of points possible in the course will be 445, and will be broken down as follows:

### Distribution of Points:

<table>
<thead>
<tr>
<th></th>
<th>Written</th>
<th>Digital Practical</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiz 1</td>
<td>15</td>
<td>-</td>
<td>15</td>
</tr>
<tr>
<td>Exam 1</td>
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<td>100</td>
</tr>
<tr>
<td>Exam 2</td>
<td>70</td>
<td>30</td>
<td>100</td>
</tr>
<tr>
<td>Quiz 2</td>
<td>15</td>
<td>-</td>
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<tr>
<td>Exam 3</td>
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<td>30</td>
<td>100</td>
</tr>
<tr>
<td>Quiz 3 (Neuro)</td>
<td>-</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Exam 4 (Neuro)</td>
<td>70</td>
<td>30</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>310</strong></td>
<td><strong>135</strong></td>
<td><strong>445</strong></td>
</tr>
</tbody>
</table>

### Final Grades:

Grades are assigned on a straight 90-80-70 scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points Earned (445 possible)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honors (90%+)</td>
<td>400.5 - 445</td>
</tr>
<tr>
<td>High Pass (80-89.9%)</td>
<td>356 - 400</td>
</tr>
<tr>
<td>Pass (70-79.9%)</td>
<td>311.5 – 355.5</td>
</tr>
<tr>
<td>Fail (&lt;70%)</td>
<td>Below 311.5</td>
</tr>
</tbody>
</table>

There are 445 possible points in SHB. The points earned will equal your grade -- each point has the same weight. **There will be no “rounding” of grades** (e.g. 400 points, 89.89%, is a High Pass).
10. **REMEDIATION**
Students failing to meet the minimum requirements for the course are required to meet with the Course Director at the completion of the course to discuss the remediation process. Students may have an opportunity to remEDIATE their final grade by taking a comprehensive, 100-question written examination after the completion of the Spring Semester, date to be determined. In order to successfully remEDIATE, a score of 70% or higher is required. Students unable to successfully remEDIATE will receive a failing grade in SHB. Remiated passes will be recorded as a P* grade in the permanent record of the student, overwriting the F grade.

11. **INTRODUCTION TO THE LABORATORY**
As mentioned above (Section II. Methods of Instruction), students will rotate through four faculty members with their assigned lab group of 18-19 students. Each group will spend 40 minutes on a prosected cadaver with a faculty member reviewing the necessary structures (as listed in the Should-Find List) from the previous day’s lecture(s). It is recommended that each student print the Should-Find List and bring it to the lab to take notes on. Please note each group’s lab time will change every 3 labs. Students should regularly check the SHB homepage for the lab schedule and group assignments.

A. **LAB SET-UP:** The lab will be set up in the Lower Level of the Stritch School of Medicine (Cuneo Bldg), Room L60, Bays A-D.
B. LAB REGULATIONS:

1) Students are provided with gloves, scalpel blades, lab coats, atlases and other dissection tools for use in the lab. Lab coats are slightly used and donated from various departments around campus. There will be a scheduled day for students to pick-out a lab coat; students will be contacted via email once the date is scheduled.

2) Unauthorized personnel are not allowed in the laboratory without the permission of the Course Director. Authorized persons include faculty of SSOM, residents, graduate students, and medical students currently enrolled in or assisting with the course, the staff associated with the course, and maintenance personnel.

3) Visiting student groups from high schools and other educational institutions are permitted entry after class hours only when accompanied by their accompanying advisor and a faculty or staff member approved by the Course Director.

4) Members of the SSOM Committee on Admissions and office staff may accompany applicants to view formal dissection periods during class hours.

5) When you have finished working on or studying from a cadaver, please ensure that the dissected region is damp and the cadaver is fully covered.

6) No cameras are allowed in the laboratory without permission from the Course Director.

7) No cadaver tissue, skeletal material, electric and non-electric dissection tools, or cadaver wraps may be taken from the laboratory at any time.

8) Smoking, eating, and drinking are not permitted in the laboratory.

9) At all times, a respectful attitude must be maintained toward the cadavers, which have been donated for your benefit.

10) Students are required to maintain the laboratory in a clean, orderly condition. Do not leave paper towels or other trash on the floors or tables. Return tools to the appropriate cupboard drawers. Place used scalpel blades in the red safety containers labeled for this purpose. Compliance for maintaining a clean and orderly lab environment is a component of the Professionalism competency goal for SHB and SSOM.

11) All fluid must be drained from the dissecting table as it accumulates. Please wipe up any spills on the floor immediately, as fluids make the floor hazardous. Transfer excess fluid into the waste collection drum in Bay B.
12) All exposed skin must be covered during dissection. Garments worn in the laboratory must be washed at frequent intervals. Shoes worn in the lab must adequately protect the top of the foot. Gloves must be worn by all persons dissecting cadavers. Students must wear lab coats over street clothes.

13) Respect for others in the close-quarter conditions of the lab around the dissection/cadaver tables must be shown. If you are ill or have an upper respiratory tract infection, a surgical mask should be worn to cover the mouth and nose.

14) Report any injury, lightheadedness, or skin irritation to a faculty member immediately. If injured, you may be taken immediately to the E.R., or security may be called to initiate transport if necessary.

15) Professional behavior must be exhibited at all times. No disrespect toward fellow students, faculty, staff, the laboratory and its resources, or the cadaver will be tolerated at any time.

16) No music playing (including radios) is allowed during scheduled lab sessions. After 3 pm, music playing is permitted.

C. LAB SECURITY:

The Multifunction Labs (L60) are open 5 AM – midnight each day, 7 days a week, to first year medical students, faculty and other personnel possessing the proper identification and key card access. In the 5-7 days prior to exams, the lab will be open 24 hours/day. Students are expected to comply with the Laboratory Regulations (Section XII, B) at all times.

Washroom facilities for changing, showering, and clothing storage in lockers are provided immediately adjacent to the dissection area in the lower level locker rooms. Please bring a lock to ensure your belongings are secure; we are not responsible for any lost or stolen items. Please maintain the cleanliness of these areas as a courtesy to the many others using them. All personal items must be removed from lockers by the end of the semester.

Visitors to the facility must be cleared through the course directors (please see Laboratory Regulations).
D. EMBALMING:
The embalming process is done professionally by State of Illinois-licensed embalmers. Our cadavers are purchased from the Anatomical Gift Association of Illinois which receives them as donations.

The embalming solution contains: 5% formaldehyde, 33% methanol, 33% glycerine, and 27% phenol. MSDS sheets for each component are available upon request.

Students who experience respiratory or contact-sensitivity reactions to these ingredients are advised to notify the Course Director and seek medical attention if necessary. Adequate precautions against skin contact must be taken (e.g. wearing gloves, wearing proper dissection clothing and lab coats, as well as impermeable plastic aprons, face masks, etc., as necessary). Our Safety and Security office inspections the dissection bays; air handing and air exchange are at OSHA standards that are monitored and maintained.

12. CONTACT INFORMATION
SHB Course Director:
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