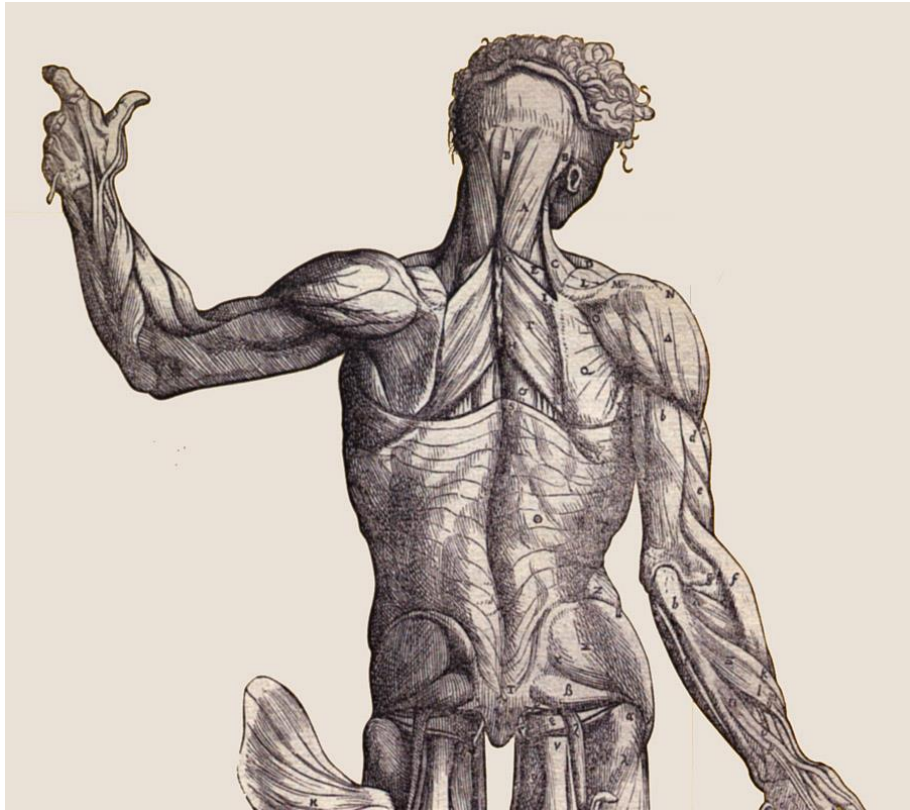


*Advanced Anatomy – BMS 8187
Course Syllabus
Academic Year 2017-2018*



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INTRODUCTION

Advanced anatomy is an elective course designed to provide prospective students with an opportunity to review anatomical sciences and revisit systems that relate to future residency interests. It is formulated in a manner to enhance student's knowledge of the fundamental of anatomy applicable to the anatomical basis of diseases that pertain to surgical as well as non-surgical fields.

It provides senior medical students with the opportunity to attain an integrated conceptual knowledge of anatomical sciences of through series of anatomy and case-based presentations. These multifaceted and integrated learning approaches are aimed at broadening students' foundational knowledge of the structure and function of body's functional systems and enhancing understanding of the significance of anatomy in the diagnosis and treatment of diseases. The course is organized in a manner to facilitate the learning of the conceptual anatomy as it relates to the practice of surgery and medicine.

The didactic component is reinforced by a series of dissection sessions that involve discussion of the clinically relevant facts of the dissected structures and simulation of common surgical procedures. Through this interactive learning model, senior medical students will be able to advance their teaching and leadership potential by actively engaging the first year students in laboratory teaching and sharing their educational experiences including study strategy of anatomy and preparation for the USMLE.

We believe this academic activity will benefit all senior medical students and particularly those who plan to pursue specialty future training in the fields that are based on imaging and/or surgical procedures including radiology, general surgery, neurosurgery, otolaryngology, Obstetrics and gynecology, rehabilitation medicine, orthopedics, emergency medicine, urology and sports medicine. It will also be useful to learners who aspire future sub-specialization in cardiology, rheumatology, and gastroenterology.

Through this curricular model, students master the fundamentals of clinical anatomy through concerted effort that integrates clinical knowledge attained through their rotations with anatomical sciences. This cooperative academic endeavor requires students' active involvement and fulfillment of responsibilities as much as faculty's effort in guiding and facilitating this process. We are confident that this learning model will be a platform to attain a unique experience, fundamental skills and knowledge that can be utilized in the successful medical practice.

COURSE DESCRIPTION

This course entails the study of regional systemic anatomy through a coordinated didactic and laboratory sessions. It provides a foundation for understanding the anatomic basis of surgical procedures, associated complications and disease processes. It facilitates the interpretation of the structural and functional changes induced by stimuli, correlating the macroscopic changes with the manifestations of diseases and ultimately with a diagnosis. The knowledge gained from this module will form the foundation for understanding the delicate interaction between structure, function and diseases processes.

ANATOMY PRESENTATIONS

This component entails series of anatomy presentations through system-based approach with emphasis on clinical implications. Emphasis will be given to the structures associated with the thoracic, abdominal and pelvic cavities. Correlation between surface anatomy and pertinent osseous landmarks, muscles, vessels, nerves and associated glands will be addressed. In this context, students review the possible pathologic processes that pertain to these landmarks.

CLINICAL CASE PRESENTATIONS

This part of the course entails presentations of selected clinical cases that reinforces anatomical knowledge, correlating manifestations with abnormalities of structures and functions. It is designed to stimulate critical thinking and develop the ability to identify weaknesses and strengths and produce teaching points from the studies cases. In addition, it is expected that students strengthen their skill necessary for critical reasoning, and data presentation through team work and collaborative intellectual activities. This component also includes entails presentations of selected surgical procedures, discussion of the indications, relevant landmarks and complications. It utilized virtual human body to identify landmarks and follow the procedure in stratified manner.

COURSE COMPENTENCIES

As a future physicians and surgeons, vital component of the health care team, you will be responsible for the management of medically compromised patients, recognize and address their needs. This requires a clear understanding of the basic mechanisms that underlie disease processes, presentations, and the impact of disease on patients and treatment options. The role of sciences basic to medicine in and in particular anatomy in this process remains vital.

Upon successful completion of the course students will be able to:

- Correlate structural changes to disease processes.
- List the major pathologic processes that has a distinct gross anatomic correlates.

- Outline the anatomic basis of procedures and associated complications.
- Perform assigned procedures in the laboratory and discuss the indications and possible complications.
- Perform an in-depth study of anatomy as it relates to surgical and other clinically relevant disciplines.
- Correlate the structural organization of the human body to the interpretation of disease processes.
- Engage in teaching through interactive laboratory settings.
- Develop the skills necessary to conduct an archival research that document the structural basis of diseases.
- Integrate basic and clinical science into well-organized and informative case-based presentations.
- Outline the delicate relationships between anatomical structures and the importance of this relationship in radiographic anatomy. In addition, it is expected that students broaden skills necessary for self-directed learning, critical reasoning, and presentation of data through intellectual team work.

METHODS OF INSTRUCTION

Meetings are scheduled for Tuesdays and Thursdays in MDC 2510 from 9:00 AM-12:00 PM. Each session include lecture presentation, case introduction and discussion and laboratory dissection as well as instruction of first year medical students.

A. LECTURES - *First two hours*

There will be regular lecture presentations in each session for one hour on specific subjects that cover anatomic structures in a system-based approach, complementing the laboratory dissection sessions. These presentations will be regularly posted on course website

B. CLINICAL CASE PRESENTATIONS PRESENTATIONS/EXPERENTIAL LEARNING - *Third hour*

This activity is designed to facilitate critical thinking. Students are expected to prepare clinical cases that bear anatomic significance in PowerPoint format supplemented with images and references. Students will have the opportunity to also examine and analyze presentations submitted by their colleagues. *Additionally*, presentations on virtual model of human body will be introduced to enhance learning through experience. Selected procedures will be presented with the indications and complications and students are asked to reflect on this experience. A summary of this experience is collectively presented.

Additionally, students are expected to engage in teaching 1st year medical students within the laboratory settings on scheduled days. They are encouraged to review the laboratory guide and atlas prior to each scheduled session.

REQUIREMENTS

In addition to attendance and active participation in the scheduled sessions, students are required to submit 4 PowerPoint presentations by the end of a 2 week elective period and 8 presentations at the conclusion of a 4-week elective.

SPECIFICS OF STUDENT'S PRESENTATION

Presented reports should be carefully selected based on its significance, relevance and impact on knowledge base.

1. Each PowerPoint presentation must encompass a case history, manifestations, physical diagnosis, differential diagnosis, therapeutic methodologies and discussion.
2. There need a balanced between text, data, and images in each slide.
3. Each presentation must consists of a minimum of 15 slides.
4. Anatomic relevance need to be explored and documented.
5. Diagnostic clues and teaching points should be listed.
6. **At the end of each presentation the 'Teaching Points' of each case must be listed in bullet points.**
7. At the end of each case presentation, a minimum of 3 questions pertinent to the case, be inserted with a brief answer for each.
8. Included material must be original and constructed by the student supported by a minimum of five recent references.
9. Materials submitted to fulfill the requirements of another course should not be included.

GRADING & EXAM FORMAT

Students will be assessed biweekly or on a monthly basis on the following criteria:

- a) Attendance and participation in didactic and laboratory sessions - 40%
- b) Timeliness, quality and comprehensiveness of the Case-Based Reports- 60%
(The reports must be submitted no later than 7 days after the conclusion of the elective.)

GRADING POLICY

The following grading scale will be utilized in determining the final course grade:

Outstanding performance (90-100%) - H

(Irrespective of performance in the course, 'H' grade will not awarded if a student has more than one absence or if she/he fails to submit the required presentation within the above specified time period.)

Solid performance (80-89%) - PC

Adequate (70-79%) - P

Below (70%) - F

ABSENCE FROM THE MANDATORY LEARNING SESSIONS

To receive an excused absence from a scheduled session students must contact the Office of Student Affairs as soon as possible before the scheduled session, and fill out and sign a "Request for an Excused Absence from Mandatory Session" form, attesting to its accuracy based on the USFCOM Honor Code. Following approval of the request, a makeup session will be arranged by the course director.

Excused absence from any scheduled learning activity during the elective is only allowed for one session in each period.

TEXTBOOKS AND ATLASES

Students may benefit from the following resources:

1. Drake R. Gray's Anatomy for Students, 3rd edition, Churchill Livingstone, ISBN- 13: 978-0702051319 ISBN-10: 0702051314.
2. Netter, F. Atlas of Human Anatomy, 5th edition, Saunders-Elsevier SBN-13: 978-1455704187 ISBN-10: 1455704180
3. Trelease R., Netter's Surgical Anatomy Review P.R.N., 1e (Netter Clinical Science), 3rd edition Springer, ISBN: 978-0-387-09515-8.

LABORATORY GUIDELINES AND STANDARDS

1. Students must sign the 'Pledge of Respect' form prior to attending any laboratory session
2. The laboratory will be open 24 hours/day except during exam preparation.
3. Students must wear laboratory coats during scheduled and unofficial laboratory hours. These coats should be laundered frequently. Students must not walk into other parts of the school building with soiled laboratory coats.
4. Should you inadvertently suffer even a minor cut or wound during your dissection, seek the immediate aid and advice of the course director or the faculty or staff in close proximity. Although injuries of this nature, when properly cared for heal without any complication. We strongly advise to seek medical help from the nearby 'Walk-In Doctors Clinic'. Additionally, the laboratory is equipped with First Aid Kits and eyewash solution. Be sure to familiarize yourself with their location before an emergency occurs.
5. If you have a medical condition or think you are or may be pregnant, please promptly let the course director be aware of your situation so proper precaution and accommodation can be instituted.
6. Smoking, eating, drinking, and playing music is NOT permitted in the laboratory at any time during scheduled or outside laboratory scheduled periods.
6. Wear protective clothing, such as laboratory coats and gloves. Fixative is capable of dissolving some fabrics and staining many others. Laboratory coats or gloves must be removed before leaving the laboratory.
7. Do not wear contact lenses during dissection - especially the soft type. Formalin and phenol fumes can impregnate the soft lenses or cause corneal irritation under the hard lenses.
8. Identifying tags of the cadaver must never be removed from the table. Please keep the tag attached to the bag zipper or to the leg of the table.
9. Cadaver parts are not to be removed from the laboratory under any circumstances. Penalties range from suspension to expulsion from school.
10. At all times all anatomical tissue must also remain with the specific cadaver.

11. Cadaver must be covered at all times outside the scheduled laboratory sessions. The condition of the cadaver will deteriorate if it is kept uncovered. You will find it extremely difficult to dissect a dried out cadaver. Dry structures cannot always be easily discernible.
12. Each table will be supplied with a spray bottle containing preservative to be used to moisten cadaveric tissue. The spray bottle can be refilled from the large containers located in each laboratory section.
13. Each group must keep the table and adjacent floor space clean. Please wipe up any fluid that may spill on the floor with paper towels.
14. NO cameras or radios are allowed in the laboratory at any time.
15. All dissection materials must be deposited in dissection waste receptacles marked (**Tissue Only**). You must not mix paper waste with body tissues.
16. All waste paper and used gloves must be deposited in a separate waste paper receptacles. Dissection gloves must not be removed from the laboratory for health reasons.
17. Used scalpel blades and other sharp objects should be placed in the special containers provided for this purpose (not left on the dissecting table, in the sink or in the trash containers).
18. Students are not permitted to bring visitors (friends, relatives, acquaintances) into the laboratory. Only doctors or medical students may visit the laboratory for a specific research or teaching purposes after approval.
19. Two sets of deep and shallow sinks are available for your use in each section of the lab. *Shallow sinks* are to be strictly used for cleaning and rinsing dissection tools, organs or cadaveric specimens. *Deep sinks* are there for you to wash your hands. They are not intended and should not be used for rinsing dissection tools or cadaveric specimens. Additional sink are also available outside the lab for your personal use.
20. It is a privilege to have the opportunity to dissect human body. All cadavers were donated. For this reason, respect should be shown, and no undue levity should be allowed.

21. We must recognize with deep appreciation and respect those who selflessly donated their bodies to help you learn the anatomy of human body.

22. It is imperative to exercise *universal precaution* when handling human tissue and biologic materials as described alter.

UNIVERSAL PRECAUTIONS

The Centers for Disease Control (CDC) has published recommendations for preventing HIV (and other blood-borne pathogens) transmission in health-care settings, commonly called "universal precautions". This approach emphasizes the consistent use of blood and body fluid* precautions for all patients because the infectious potential for blood and other body fluids is not always known. The following recommendations have been developed for use in health care settings. Many of these same recommendations are also applicable in research labs where work with blood or other body fluids is being conducted.

1. All should routinely use appropriate barrier precautions to prevent skin and mucosa exposure when contact with blood or other body fluids is anticipated. Gloves should be worn for touching blood and body fluids, mucous membranes, or non-intact skin of all patients, for handling items or surfaces soiled with blood or body fluids, and for performing venipuncture and other vascular access procedures. Gloves should be changed after contact with each patient. Masks and protective eyewear or face shields should be worn during procedures that are likely to generate droplets of blood or other body fluids to prevent exposure of mucous membranes of the mouth, nose, and eyes. Gowns or aprons should be worn during procedures that are likely to generate splashes of blood or other body fluids.

2. Hands and other skin surfaces should be washed immediately and thoroughly if contaminated with blood or other body fluids. Hands should be washed immediately after gloves are removed.

3. All health-care workers should take precautions to prevent injuries caused by needles, scalpels, and other sharp instruments or devices during procedures; when cleaning used instruments; during disposal of used needles; and when handling sharp instruments after procedures. To prevent needle stick injuries, needles should not be recapped, purposely bent or broken by hand, removed from disposable syringes, or otherwise manipulated by hand. After sharps are used, they should be placed in puncture-resistant containers for disposal; the puncture-resistant containers should be located as close as practical to the use area.

4. Pregnant health-care workers are not known to be at greater risk of contracting HIV infection than health-care workers who are not pregnant; however, if a health-care worker develops HIV infection during pregnancy, the infant is at risk of infection resulting from perinatal transmission. Because of this risk, pregnant health-care workers

should be especially familiar with and strictly adhere to precautions to minimize the risk of HIV transmission.

ADDITIONAL PRECAUTIONS

As a supplement to the "universal precautions" listed above the following precautions are also recommended:

1. All specimens of blood and body fluids should be put in a well-constructed container with a secure lid to prevent leaking during transport.

2. All persons processing blood and body-fluid specimens, e.g., removing tops from vacuum tubes, should wear gloves. Masks and protective eyewear should be worn if mucous membrane contact with blood or body fluids is anticipated. Gloves should be changed and hands washed after completion of specimen processing.

3. For routine procedures, such as histologic and pathologic studies or microbiologic culturing, a biological safety cabinet is not necessary. However, biological safety cabinets should be used whenever procedures are conducted that have a high potential for generating droplets. These include activities such as blending, sonicating, and vigorous mixing.

4. Mechanical pipetting devices should be used for manipulating all liquids in the laboratory. Mouth pipetting must not be done.

5. Use of needles and syringes should be limited to situations in which there is no alternative and the recommendations for preventing injuries with needles outlined under universal precautions should be followed.

6. Laboratory work surfaces should be decontaminated with an appropriate chemical germicide after a spill of blood or other body fluids and when work activities are completed.

7. Contaminated materials used in the laboratory should be decontaminated before reprocessing or be placed in bags or other containers and disposed of according to The University's procedures.

8. Equipment that has been contaminated with blood or other body fluids should be decontaminated and cleaned before being repaired in the laboratory or transported to the manufacturer.

9. All persons should wash their hands after completing laboratory activities and should remove protective clothing before leaving the laboratory.

** Universal precautions apply to blood and to other body fluids containing visible blood. Universal precautions also apply to semen and vaginal secretions; tissues; and to the following fluids: cerebrospinal, synovial, pleural, peritoneal, pericardial, and amniotic. Human Anatomy (BMS 6100) Syllabus- Part-3 (Academic Year 2009-2010) 54 Reference: National Research Council. Biosafety in the Laboratory, Prudent Practices for the Handling and Disposal of Infectious Materials, 1989.*

END OF THE SYLLABUS