



## **Elective Description**

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 based on either one or a combination of the following,

- series of dissection of selected regions of a human cadaver
- case - based presentations incorporating radiological images, ultrasound and other anatomical modalities
- completion of online ultrasound modules
- enhance learning by teaching Anatomy or Imaging or Ultrasound to MS1 students

These 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 an independent study based, whereby each student will be assigned individual projects with select objectives. For all dissections it is EXPECTED THE STUDENTS PREPARE BEFORE by reading comprehensive textbooks, manuals and consulting anatomical atlases (books and electronic sources, etc).

## **COURSE OBJECTIVES**

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

- Perform an in-depth study of anatomy as it relates to surgical and other clinically relevant disciplines.
- List the major pathologic processes that has a distinct gross anatomic correlate.
- Outline the anatomic basis of procedures and associated complications.
- Understand the structural organization of the human body to the interpretation of disease processes.
- Develop experience and demonstrate competence in dissection/prosection techniques.
- Develop in depth understanding of three-dimensional presentations of anatomy through prosection.
- Develop the ability to work independently and responsibly, and interact with peers and Faculty
- Self-assess and communicate to peers and faculty their understanding of Anatomy
- Engage in teaching through interactive laboratory settings.

## **METHOD OF INSTRUCTION Online /Hands-on**

- The students are provided resources and support for facilitated learning.

## **Requirements**

Students are required to complete the following assignments

1. Dissect selected regions of a human cadaver - based on their interests  
(Two areas of interest for a 2-week elective and 4 areas of interest for a 4-week elective) (Please adhere to the Gross anatomy guidelines. A copy can be provided on request)

Or

2. Completion of online ultrasound modules – 10 modules plus 10 simulation cases

Or

3. Enhance learning by teaching Anatomy or Imaging or Ultrasound to MS1 students 8hrs (2 wk. elective and 16hr (4 week elective)

Mandatory Requirements:

1. Contact the course director [sribharadwaj@usf.edu](mailto:sribharadwaj@usf.edu) before the beginning of the course
2. All students must attend the first-class meeting of their courses or they will be issued a fail grade, unless they have made previous arrangements with the instructor.

## GRADING & EXAM FORMAT

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

- a) Dissection 60% / Teaching-20%
- b) Sonosim modules Library 50% / simulation assignments 50%

## GRADING POLICY & FORMAT

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

Outstanding performance (90-100%) - H

Solid performance (80-89%) –

PC Adequate (70- 79%) - P

Below (70%) - F

An 'I' grade will be recorded if a student has absence which is not remediated within the week following the conclusion of the elective period or fails to submit the required presentations in the above specified time period. This grade will be removed upon completion of the remediation requirements.

### ***Grade Appeal Process***

#### ***Basis for Appeal***

A student may appeal a course grade if the student has evidence that the grade was assigned in an erroneous manner. This is not a process for appeal of established course/clerkship grading policies. The following procedure provides guidelines for the appeal process. All persons concerned with this process should make every attempt to adhere to the time schedule outlined in the following description of the appeal process.

#### ***Appeal to the Course Director for Review of the Assigned Course Grade***

a. Within ten (10) school days after the receipt of the course grade, the student may appeal in writing to the course director any assigned grade in dispute. The course director will review the course grading guidelines with the student to ensure that the process is understood and has been followed. If it is found that the assigned grade is incorrect in the judgment of the course director, the appropriate change will be initiated. If the change is made at this point, the matter is concluded. The course director will respond in writing with the proposed resolution of the matter to the student within ten (10) school days of the student's request for review.

b. If the course director is no longer with MCOM, the student should confer with the departmental chairperson (or Associate Dean for Undergraduate Medicine Education for integrated courses) who will then make every effort to receive written input concerning the matter from the former course director. If it is not possible to receive information from the former course director regarding the grade, then the student may appeal the grade as described below and the departmental chairperson (or Associate Dean for Undergraduate Medicine Education for integrated courses) will represent the interests of the course director who issued the grade.

***Appeal to the Department Chairperson/Associate Dean for Undergraduate Medicine Education***

a. If the question of the assigned grade cannot be resolved between the student and the course director, the student may appeal in writing to the Associate Dean for UME (all required courses and interdisciplinary electives) or the Chairperson of the department in which the course was taught (single department electives). This appeal must be made within ten (10) school days following the initial course director review. The student must include all relevant information relating to the grade appeal with the written appeal. After receiving such an appeal in writing from the student, the Associate Dean for UME or Chairperson will review with the course director the substance of the student's appeal and seek to determine its validity.

b. If the Associate Dean for UME/Chairperson determines that the assigned grade is, in his/her judgment, inappropriate, the Associate Dean for UME/chairperson should recommend to the course director that the grade be changed. The course director may or may not concur with the Associate Dean for UME's /Chairperson's recommendation.

c. The Associate Dean for UME/Chairperson will notify the student in writing, within ten (10) school days of receipt of the appeal, whether or not the assigned grade will be changed by the course director. If the grade is changed to the student's satisfaction, the matter is concluded. If the grade is not changed, the Associate Dean for UME/chairperson will advise the student of the right to appeal to the Vice Dean for Educational Affairs.

d. If the student elects to appeal for the Vice Dean, copies of all written communication mentioned above will be sent by the Associate Dean for UME/chairperson to the Vice Dean for Educational Affairs as described below.

***Appeal to the Vice Dean for Educational Affairs***

a. If the course grade is not changed to the satisfaction of the student at the Associate Dean for UME/chairperson level, the student may appeal the assigned grade, in writing, to the Vice Dean for Educational Affairs. This appeal must occur within ten (10) school days of receipt of the decision of the Associate Dean for UME/chairperson. The student will prepare an appeal in writing, which should be reviewed by the Associate Dean for Student Affairs as to form/sufficiency (satisfactory structure). The Vice Dean for Educational Affairs may discuss the case with the student, the course director, the chairperson of the department in which the course was taught or the Associate Dean for UME, the Associate Dean for Student Affairs and the Chair of the APRC. Following these discussions, the Vice Dean for Educational Affairs may make a recommendation to the course director, the student, and the Associate Dean for UME/chairperson. If this results in an acceptable solution to all parties, the matter is concluded. If not, then a Hearing Committee will be appointed. The Vice Dean for Educational Affairs may, if he/she chooses, appoint a Hearing Committee upon receiving the initial appeal. The appeal will be handled as expeditiously as possible by the Vice Dean for Educational Affairs.

b. When the decision is made to establish a Hearing Committee to review an appeal, the Vice Dean for Educational Affairs will convene an *ad hoc* committee comprised of three senior members of the MCOM faculty who had not previously been involved in issuing the grade or the appeal process and three medical students, all of whom will have voting privileges. This Committee will elect a chairperson and

hold a hearing concerning the appeal at a time acceptable to all participants. At this hearing, all material relevant to the appeal will be presented by the student, the Associate Dean for Student Affairs, the Chair of the APRC, the course director issuing the grade or raising the concern, and/or the Associate Dean for UME/chairperson. Others may be requested to assist the Committee as necessary. The student may request to have a person or persons of the student's choosing present during committee meetings. This person or persons of the student's choosing is present to provide support and counsel to the student. The person(s) may not act as the student's attorney in the hearing.

c. The Hearing Committee will submit a written report containing a recommendation for a specific course of action regarding the student's grade appeal to the Vice Dean for Educational Affairs. If the Committee cannot reach a conclusion, the written report will be submitted to the Vice Dean for Educational Affairs who will consider the reason(s) why the committee failed to reach a decision.

d. The Vice Dean for Educational Affairs will then decide on a final resolution, which may or may not contain some or all of the recommendations of the Hearing Committee. As delegated authority of the Dean, the decision of the Vice Dean for Educational Affairs is final.

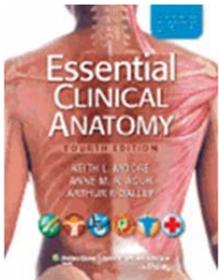
### **ABSENCE FROM THE MANDATORY LEARNING SESSIONS**

To receive an excused absence from a scheduled session student 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,

**Student must inform the course director about the specific date that a makeup will be completed.**

## Resources

Students benefit from the following resources:

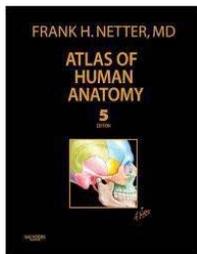
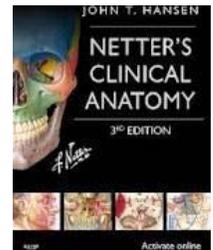


[Essential Clinically Anatomy 4th edition..Moore, Arthur F Dalley, Anne MR Agur \(2011\). Lippincott Williams and Wilkins, ISBN-13: 978-0781799157 , ISBN-10: 0781799155.](#) (Click on link)

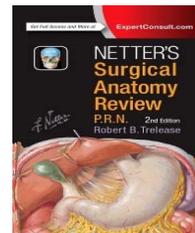
**Or Essential Clinically Anatomy 5<sup>th</sup> Edition** ISBN- 13: 978-1451187496 ISBN-10: 1451187491

**(The required textbooks are available as an e-book through the Shimberg Library at no cost.)**

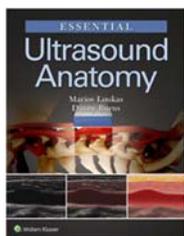
Netter's Clinical Anatomy (NCA) Hansen J (2019) Elsevier 4<sup>th</sup> Edition



Netter, F. H. (2019). *Atlas of human anatomy* (7<sup>th</sup> Ed.). Philadelphia, PA: Saunders Elsevier.



**Netter's Surgical Anatomy Review P.R.N. 2nd Edition**



<https://sonosim.com/> ( You will be given access by the course director)

You can access Primal Pictures, the world's most medically accurate and detailed 3D graphic rendering of human anatomy as a supplemental tool for learning

<https://www.anatomy.tv/> Username- usfmed ; Password - anatomy

Acland Videos <http://aclandanatomy.com/> username usfaccess ; password usfpass only with in the campus. You need to use VPN to connect from outside the campus. Contact .USF IT for help regarding VPN setup.

MCOM Program Objectives	Course Objectives	Assessment methods
<b>1. Patient Care</b> : <i>Provide patient-centered care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health</i>		
1.1 Perform all medical, diagnostic, and surgical procedures considered essential for the area of practice		Not assessed
1.2 Gather essential and accurate information about patients and their conditions through history-taking, physical examination, and the use of laboratory data, imaging, and other tests		Not assessed
1.3 Organize and prioritize responsibilities to provide care that is safe, effective, and efficient		Not assessed
1.4 Interpret laboratory data, imaging studies, and other tests required for the area of practice		Not assessed
1.5 Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment		Not assessed
1.6 Develop and carry out patient management plans		Not assessed
1.7 Counsel and educate patients and their families to empower them to participate in their care and enable shared decision-making		Not assessed
1.8 Provide appropriate referral of patients including ensuring continuity of care throughout transitions between providers or settings, and following up on patient progress and outcomes		Not assessed
1.9 Provide health care services to patients, families, and communities aimed at preventing health problems or maintaining health		Not assessed
1.10 Provide appropriate role modeling		
1.11 Perform supervisory responsibilities commensurate with one's roles, abilities, and qualifications		Not assessed
<b>2. Knowledge for Practice:</b> <i>Demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care.</i>		

<p>2.1 Demonstrate an investigatory and analytic approach to clinical situations</p>	<p>Perform an in-depth study of anatomy as it relates to surgical and other clinically relevant disciplines.</p> <p>List the major pathologic processes that has a distinct gross anatomic correlate. Outline the anatomic basis of procedures and associated complications.</p> <p>Understand the structural organization of the human body to the interpretation of disease processes.</p> <p>Develop experience and demonstrate competence in dissection/prosection techniques.</p> <p>Develop in depth understanding of three-dimensional presentations of anatomy through prosection.</p> <p>Develop the ability to work independently and responsibly, and interact with peers and Faculty</p> <p>Self-assess and communicate to peers and faculty their understanding of Anatomy</p> <p>Engage in teaching through interactive laboratory settings.</p>	<p>Individual observation on dissection methods or teaching skills or completion of online modules and quizzess</p>
<p>2.2 Apply established and emerging bio-physical scientific principles fundamental to health care for patients and populations</p>		<p>Not assessed</p>
<p>2.3 Apply established and emerging principles of clinical sciences to diagnostic and therapeutic decision-making, clinical problem-solving, and other aspects of evidence-based health care</p>		<p>Not assessed</p>
<p>2.4 Apply principles of epidemiological sciences to the identification of health problems, risk factors, treatment strategies, resources, and disease prevention/health promotion efforts for patients and populations</p>		<p>Not assessed</p>
<p>2.5 Apply principles of social-behavioral sciences to provision of patient care, including assessment of the impact of psychosocial and cultural influences on health, disease, care seeking, care compliance, and barriers to and attitudes toward care</p>		<p>Not assessed</p>

2.6 Contribute to the creation, dissemination, application, and translation of new health care knowledge and practices		Not assessed
<b>3. Practice-Based Learning and Improvement:</b> <i>Demonstrate the ability to investigate and evaluate one's care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning</i>		
3.1 Identify strengths, deficiencies, and limits in one's knowledge and expertise	<ul style="list-style-type: none"> <li>• Develop experience and demonstrate competence in dissection/prosection techniques.</li> <li>• Develop in depth understanding of three-dimensional presentations of anatomy through prosection.</li> <li>• Develop the ability to work independently and responsibly, and interact with peers and Faculty</li> <li>• Self-assess and communicate to peers and faculty their understanding of Anatomy</li> <li>• Engage in teaching through interactive laboratory settings.</li> </ul>	Observation of small groups in Anatomy lab
3.2 Set learning and improvement goals  3.3 Identify and perform learning activities that address one's gaps in knowledge, skills, and/or attitudes	<ul style="list-style-type: none"> <li>• Develop experience and demonstrate competence in dissection/prosection techniques.</li> <li>• Develop in depth understanding of three-dimensional presentations of anatomy through prosection.</li> <li>• Develop the ability to work independently and responsibly, and interact with peers and Faculty</li> <li>• Self-assess and communicate to peers and faculty their understanding of Anatomy</li> <li>• Engage in teaching through interactive laboratory settings.</li> </ul>	Observation of small groups in Anatomy lab based group and individual self-assessment

3.4 Systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement		Not assessed
3.5 Incorporate feedback into daily practice		Not assessed
3.6 Locate, appraise, and assimilate evidence from scientific studies related to patients' health problems		Not assessed
3.7 Use information technology to optimize learning	<ul style="list-style-type: none"> <li>• Develop in depth understanding of three-dimensional presentations of anatomy through prosection.</li> <li>• Develop the ability to work independently and responsibly, and interact with peers and Faculty</li> <li>• Self-assess and communicate to peers and faculty their understanding of Anatomy</li> </ul>	Observation of small groups in Anatomy lab based group and individual self-assessment
3.8 Participate in the education of patients, families, students, trainees, peers, and other health professionals	<ul style="list-style-type: none"> <li>• Develop experience and demonstrate competence in dissection/prosection techniques.</li> <li>• Engage in teaching through interactive laboratory settings.</li> </ul>	Observation of small groups in Anatomy lab based group and individual self-assessment
3.9 Obtain and utilize information about individual patients, populations of patients, or communities from which patients are drawn to improve care		Not assessed
3.10 Continually identify, analyze, and implement new knowledge, guidelines, standards, technologies, products, or services that have been demonstrated to improve outcomes		Not assessed
<b>4. Interpersonal and Communication Skills: <i>Demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals</i></b>		
4.1 Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds		Not assessed
4.2 Communicate effectively with colleagues within one's profession or specialty, other health professionals, and health related agencies	<ul style="list-style-type: none"> <li>• Develop the ability to work independently and responsibly, and interact with peers and Faculty</li> <li>• Self-assess and communicate to peers and faculty their understanding of Anatomy</li> </ul>	Anatomy lab based group and individual self-assessment
4.3 Work effectively with others as a member or leader of a health care team or other professional group		Not assessed

4.4 Act in a consultative role to other health professionals		Not assessed
4.5 Maintain comprehensive, timely, and legible medical records		Not assessed
4.6 Demonstrate sensitivity, honesty, and compassion in difficult conversations, including those about death, end of life, adverse events, bad news, disclosure of errors, and other sensitive topics		Not assessed
4.7 Demonstrate insight and understanding about emotions and human responses to emotions that allow one to develop and manage interpersonal interactions		Not assessed
<b>5. Professionalism:</b> <i>Demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles</i>		
5.1 Demonstrate compassion, integrity, and respect for others		
5.2 Demonstrate responsiveness to patient needs that supersedes self-interest		
5.3 Demonstrate respect for patient privacy and autonomy		
5.4 Demonstrate accountability to patients, society, and the profession		
5.5 Demonstrate sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation		
5.6 Demonstrate a commitment to ethical principles pertaining to provision or withholding of care, confidentiality, informed consent, and business practices, including compliance with relevant laws, policies, and regulations		
<b>6. Systems-Based Practice :</b> <i>Demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care</i>		
6.1 Work effectively in various health care delivery settings and systems relevant to one's clinical specialty		Not assessed
6.2 Coordinate patient care within the health care system relevant to one's clinical specialty		Not assessed
6.3 Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care		Not assessed
6.4 Advocate for quality patient care and optimal patient care systems		Not assessed
6.5 Participate in identifying system errors and implementing potential systems solutions		Not assessed
6.6 Perform administrative and practice management responsibilities commensurate with one's role, abilities, and qualifications		Not assessed
<b>7. Interprofessional Collaboration:</b> <i>Demonstrate the ability to engage in an interprofessional team in a manner that optimizes safe, effective patient- and population-centered care</i>		

<p>7.1 Work with other health professionals to establish and maintain a climate of mutual respect, dignity, diversity, ethical integrity, and trust</p> <p>7.2 Use the knowledge of one's own role and the roles of other health professionals to appropriately assess and address the health care needs of the patients and populations served</p> <p>7.3 Communicate with other health professionals in a responsive and responsible manner that supports the maintenance of health and the treatment of disease in individual patients and populations</p>	<ul style="list-style-type: none"> <li>- Develop the ability to work independently and responsibly, and interact with peers and Faculty</li> <li>• Self-assess and communicate to peers and faculty their understanding of Anatomy</li> </ul>	<p>Observation of small groups in Anatomy lab based group and individual self-assessment</p>
<p>7.4 Participate in different team roles to establish, develop, and continuously enhance interprofessional teams to provide patient- and population-centered care that is safe, timely, efficient, effective, and equitable</p>		<p>Not assessed</p>
<p><b>8. Personal and Professional Development:</b> <i>Demonstrate the qualities required to sustain lifelong personal and professional growth</i></p>		
<p>8.1 Develop the ability to use self-awareness of knowledge, skills, and emotional limitations to engage in appropriate help-seeking behaviors</p>	<ul style="list-style-type: none"> <li>• - Self-assess and communicate to peers and faculty their understanding of Anatomy</li> </ul>	<p>Course director / faculty observation</p>
<p>8.2 Demonstrate healthy coping mechanisms to respond to stress</p>	<ul style="list-style-type: none"> <li>• Self-assess and communicate to peers and faculty their understanding of Anatomy</li> </ul>	<p>Course director / faculty observation</p>
<p>8.3 Manage conflict between personal and professional responsibilities</p>	<ul style="list-style-type: none"> <li>• - a Self-assess and communicate to peers and faculty their understanding of Anatomy</li> </ul>	<p>Course director / faculty observation</p>
<p>8.4 Practice flexibility and maturity in adjusting to change with the capacity to alter one's behavior</p>	<ul style="list-style-type: none"> <li>• Self-assess and communicate to peers and faculty their understanding of Anatomy</li> </ul>	<p>Course director / faculty observation</p>
<p>8.5 Demonstrate trustworthiness that makes colleagues feel secure when one is responsible for the care of patients</p>	<p>None</p>	<p>Not assessed</p>
<p>8.6 Provide leadership skills that enhance team functioning, the learning environment, and/or the health care delivery system</p>	<ul style="list-style-type: none"> <li>• Self-assess and communicate to peers and faculty their understanding of Anatomy</li> </ul>	<p>Observation of small groups</p>
<p>8.7 Demonstrate self-confidence that puts patients, families, and members of the health care team at ease</p>	<p>None</p>	<p>Not assessed</p>
<p>8.8 Recognize that ambiguity is part of clinical health care and respond by utilizing appropriate resources in dealing with uncertainty</p>	<p>None</p>	<p>Not assessed</p>

