

Course Title and Number: PT 422 Anatomy for Physical Therapists

Description: Detailed lectures and demonstrations on musculoskeletal anatomy and peripheral neuroanatomy.

This course is designed to provide the physical therapy student with an adequate foundation in the gross anatomy of the human body which will help them to:

Understand the basic structural and functional relationships between the musculoskeletal, integumentary, neuromuscular, and the cardiovascular/pulmonary systems of the body.

Department Offering the Course: Physical Therapy

Credit Hours: 5 credit hours

Instructor(s): Susan H N Jenó, PT, PhD, ECS; Gary Schindler, PT, PhD, DPT, OCS, SCS, ATC

Clock Hours:

Lecture: 45 hours per semester

Lab: 125 hours per semester

Discussion: 10 hours per semester

Course Prerequisites:

Registered in Professional Physical Therapy curriculum

Course Objectives:

At the completion of the course each student will be able to:

1. Identify, locate and illustrate during written and laboratory examinations and in clinical application, the major structures along with their function and relationships to each other in all regions of the body. This includes, but is not limited to, innervation, vascular supply, musculoskeletal structure and function, and connective tissue components. (SRE 7A)(Cognitive: Comprehension and Application; Psychomotor: Set and Mechanism)
2. Identify and/or discuss the structure and function of a typical joint and the specific functional anatomy of the shoulder, elbow, hip, knee, ankle joints and joints of the spine. (SRE 7A) (Cognitive: Comprehension and Application; Psychomotor: Set and Mechanism)
3. Identify the cranial nerves and peripheral nerve plexuses of the body, apply the information to muscles innervated by any cranial or peripheral nerve, and the resulting muscle dysfunction due to a particular nerve injury. (SRE 7A) (Cognitive: Comprehension and Application)
4. Illustrate the major structures and relationships of the contents of the thoracic, abdominal and pelvic cavities including but not limited to the visceral structures, the sympathetic and parasympathetic innervations and vascular supply to the viscera, as well as skeletal and muscular structures located in the region. (SRE 7C) (Cognitive: Comprehension and Application)
5. Illustrate the histological and gross structure and function of skin and connective tissue, the impact of this tissue on other systems of the body, and its relevance in clinical practice to the design and implementation of appropriate intervention programs. (SRE 7A) (Cognitive: Comprehension and

Application)

6. Apply the anatomical knowledge presented in class along with appropriate evidence to the preparation of a patient case scenario and demonstrate professional communication skills in the presentation of the scenario to teach peers. (SRE 7B, 7D7,12) (Cognitive: Comprehension, Application; Psychomotor: Set, Mechanism)
7. Recognize genetic influence on anatomical structure and describe the influence of gene alleles on anatomical structure. (SRE 7A) (Cognitive: Knowledge)
8. Consistently demonstrate professional behavior and respect for faculty, peers and cadaveric materials throughout the course. (Affective: Responding)

Overarching goals:

At the end of the course, students are expected to have an adequate working knowledge of anatomy to enable them to:

1. Apply and integrate anatomical knowledge of the body in advanced course work in the professional curriculum.
2. Apply anatomical knowledge in clinical settings in order to adequately assess the source of impairment, functional limitations, and develop an appropriate intervention program for the client.
3. Recognize the range of normal variation in gross anatomical structures and be able to utilize this information during clinical examination and evaluation of clients.

Outline of Content and Assigned Instructor:

See attached course schedule.

Dr. Jenó is the primary lecturer with occasional lectures by Dr. Schindler. Both faculty members are in labs.

Content relating to upper extremity, lower extremity, arthrology, head, neck, trunk, pelvis and perineum are covered throughout the course.

Description of Teaching Methods and Learning Experiences:

Lecture - Hybrid lecture format with asynchronous lectures, synchronous online and in class lecture that includes active learning and functional application of knowledge

Laboratory - lab consists of cadaver dissection, introduction to imaging, dry lab experiences with case studies

Discussion— case study presentations, online learning experiences, small group discussions with teaching assistants to review content and prepare for upcoming examinations, active learning with dry lab activities

Information is presented in lecture, laboratory, and discussion format. Independent learning is expected throughout the course to promote life-long learning in the anatomical sciences and their application to patient care practices. The laboratory portion of the course requires dissection and study of human cadaveric specimens working in groups of 4 students. Clinical case presentations prepared and presented by the students are used to enhance the learning experience in the laboratory. Discussion sessions allow the students to interact in small groups with teaching assistants, providing the opportunity for individual and group learning utilizing methods that can be tailored to the needs of the specific students. Group discussion and tutorial opportunities enhance the learning opportunities for the students.

Methods of Evaluation:

<u>GRADING:</u>	A	90% - 100%
	B	80% - 91.9%
	C	76% - 79.9%
	D	70% - 75.9%
	F	Below 70%

****Passing requires a grade of C or better for the course. Grades are determined on a total point basis. To be eligible to take the final exam, cumulative written exam score must be above the 70% level.** The expectation is that every student in the course passes with a score higher than 80% as failure to master the foundational information in this course has the potential to impact success in future classes and professional practice.

Grades based on:	Quizzes	Announced/Unannounced
	Online	Learning experiences
	Clinical Case	Presentations in Lab
	Written Exams	5 covering specific blocks of material
	Lab Practical Exams	2 covering specific blocks of material
	Comprehensive	Written and Lab Final Exams
	Participation	Discussion sections, Class Participation, Special Topics, Cadaver Dissection, and Other Assignments as directed throughout the term

*****No make-up exams are permitted in this course except in extreme circumstances (i.e. student is hospitalized). Laboratory exams cannot be made up, student may be required to complete separate assignment if laboratory exam is missed.**

All written exams will be done in Examssoft. Any questions regarding grading of exams are to be handled in a professional manner and **in writing** with an explanation of your concern and your reference that includes the page number to justify your answer. Any correspondence concerning exams must be made within 1 week from the time exams are taken by the student. After that time, no alterations to exam grades will be made and existing score will be used for grade calculations.

Required Textbooks and Other Learning Resources:

Jeno/Keck Anatomy for Allied Health 6th ed.
Moore Clinically Oriented Anatomy, 8th Ed.
Color Atlas Student's choice of numerous atlas' available (Netter's is available through the online system)

*Note: A Theme *Atlas of Anatomy* is provided for each dissecting table in the lab.

Recommended Supplies: Colored pencils

ACCOUNTABILITY

Independent learning is expected throughout this course. Students will be held responsible for material presented in lecture, pertinent information covered in the texts related to the topics discussed in lecture/lab/discussion, and all material covered in the laboratory including laboratory manual, case presentations, and any additional information presented during laboratory sessions.

QUESTIONS/PROBLEMS

If, during the course of the semester, questions should arise, the first step is to approach the primary instructor, Dr. Susan Jenó. If satisfaction is not achieved, the Department Chair, Dr. David Relling would be the next person to contact. Please refer to the Scholastic Standards Manual for further details. All questions regarding exams should be referred to Dr. Susan Jenó.

ACADEMIC INTEGRITY:

In accordance with the rules concerning scholastic dishonesty in the *Code of Student Life** at the University of North Dakota, I affirm that I understand these rules and I agree to comply with them.

I will not:

- a) receive any additional information or assistance for any exam other than what was provided during class or approved tutor sessions
- b) copy from another student's test
- c) collaborate with or seek aid from another student who may have previously taken the exam
- d) knowingly use, buy, sell, steal, or solicit in whole or in part the contents of any exam
- e) bribe another person to obtain information about any exam

Department of Physical Therapy Honor Code Pledge:

“Upon my honor as a professional student in the physical therapy program at the University of North Dakota, I pledge that I will not give nor receive unauthorized aid on written examinations, laboratory practical examinations, written assignments, take home assignments or clinical assignments”

Examination disclaimer: “I affirm that I have adhered to the Honor Code in this assignment”

A. Forms of Academic Dishonesty. Academic dishonesty includes, but is not limited to:

1. Copying or distributing examination items
2. During testing, using crib notes or various forms of technology not authorized by faculty
3. Copying another student's written paper or examination, with or without their knowledge
4. Helping someone else cheat on a test
5. Communicating or collaborating during a test by electronic means such as telephone, texting or PDAs
6. Discussing test items or answers (written or laboratory) with students who have not yet taken the examination
7. Cutting and pasting text from any source without giving proper citation to that source
8. Plagiarism of any materials
9. Fabricating or falsifying written materials
10. Falsely reporting information or actions in clinical or classroom laboratories
11. Submitting the same paper, or a substantially similar paper, for the requirements of more than one course without the approval of the instructor(s) concerned
12. Submitting term papers or assignments written by another person

13. Consenting to having one's work used by another student as his or her own
14. Collaborating on a project (in person or via electronic means) when the instructor asked for individual work
15. Using a false excuse to obtain an extension on a due date or delay an examination
16. Depriving other students of necessary course materials by stealing books, periodicals, or other materials from libraries, AV centers, etc.

If problems occur, students are required to work through channels of communication to resolve the problem before going to the chair or dean. The channel is student, instructor, chair, associate dean health sciences, and dean. rev 2/06, 5/06, 5/07, 4/08, 5/09, 5/10, 5/11, 8/13, 8/14, 8/15, 8/16

NOTICE OF NONDISCRIMINATION

It is the policy of the University of North Dakota that no person shall be discriminated against because of race, religion, age, color, gender, disability, national origin, creed, sexual orientation, gender identity, genetic information, marital status, veteran's status, or political belief or affiliation and the equal opportunity and access to facilities shall be available to all. Concerns regarding Title IX, Title VI, Title VII, ADA, and Section 504 may be addressed to Donna Smith, Director of Equal Employment Opportunity/Affirmative Action and Title IX Coordinator, 401 Twamley Hall, 701.777.4171, und.affirmativeactionoffice@UND.edu or the Office for Civil Rights, U.S. Dept. of Education, 500 West Madison, Suite 1475, Chicago, IL 60611 or any other federal agency.

DISABILITY ACCESS STATEMENT

Contact me Dr. Susan Jenó to request disability accommodations, discuss medical information, or plan for an [emergency evacuation](#).

To get confidential guidance and support for disability accommodation requests, students are expected to register with DSS at UND.edu/disability-services 180 McCannel Hall, or 701.777.3425.

REPORTING SEXUAL VIOLENCE

If you or a friend has experienced sexual violence, such as sexual assault, domestic violence, dating violence or stalking, or sex-based harassment, please contact UND's Title IX Coordinator, Donna Smith, for assistance: 701.777.4171; donna.smith@UND.edu or go to UND.edu/affirmative-action/title-ix.

FACULTY REPORTING OBLIGATIONS REGARDING SEXUAL VIOLENCE

It is important for students to understand that faculty are required to share with UND's Title IX Coordinator any incidents of sexual violence they become aware of, even if those incidents occurred in the past or are disclosed as part of a class assignment. This does not mean an investigation will occur if the student does not want that, but it does allow UND to provide resources to help the student continue to be successful at UND. If you have been the victim of sexual violence, you can find information about confidential support services at UND.edu/affirmative-action/title-ix.

UND CARES RESPONSE TEAM:

The [UND Cares Response Team](#) is available to assist with incidents involving UND students 24 hours a day, seven days a week. They respond to incidents such as major accidents, missing students, sickness that interferes with attending classes, death, suicidal ideations, situations involving self-harm, psychological trauma and sexual violence. Contact directly at 701.777.2664 during regular business hours OR University Police Department 701.777.3491 after hours.

COVID-19 SPECIAL STATEMENT:

All members of the University community have a role in creating and maintaining a COVID-19 resilient campus. There are several expectations from the School of Medicine and Health Sciences that require compliance, including: Wear face coverings during interactions with others and in the classroom; Wash hands often and use hand sanitizer; Properly clean spaces; and, if you are experiencing any symptoms, Stay home and call your health care provider. Students who fail to comply with any of the COVID related requirements will not be permitted in the classroom and may be subject to disciplinary action. We encourage all members of the University community to model positive behavior both on- and off-campus. Any changes in the SMHS COVID related requirements will be communicated to you through the Friday weekly email “For your health” from the Dean’s office and email from the program director or chair.

Students who test positive for COVID-19 are expected to immediately self-isolate/quarantine. If you have tested positive for COVID-19 we strongly recommend that you report the information to the Office of Student Rights and Responsibilities at 701.777.2664 or online at <https://veoci.com/veoci/p/w/ss2x4cq9238u>. Doing so will ensure students have the support they need to continue with their academic goals and to protect others. The policy related to COVID-19 may change throughout the semester due to community spread and updated CDC guidelines. Please check the policy frequently and ask faculty if you have any questions.

In this course, students are expected to wear face coverings while in the classroom and/or laboratory. Students electing not to comply with these expectations will not be permitted to enter the room. UND strongly encourages all members of the University community, including students, to get vaccinated and model positive behavior both on- and off-campus in order to foster a healthy and safe learning environment for all students. Individuals who would like to discuss disability accommodations regarding face coverings should contact the Disability Services for Students (DSS) office at 701-777-2664 or UND.dss@UND.edu. Individuals who are unable to wear a face covering due to a sincerely held religious belief should contact the UND Equal Opportunity and Title IX Office at 701.777.4171 or UND.affirmativeactionoffice@UND.edu.

Laboratory Information

Required Text: Anatomy 422 Laboratory Manual, Fall 2021
Instructor Jenó
Available on Blackboard only, each lab table will be provided with a hard copy of the Laboratory Manual

Required Equipment: Disposable Gloves, Latex Free (students purchase), mask/face covering

Provided Equipment: Theme's Atlas and Lab Manual for each dissection table
Dissection Tools for each table
Lab Coat, provided by the PT Department (\$25 fee if not returned at end of semester)
Scalpel Blades (provided by department unless overuse occurs)

Attendance/Participation:

Attendance/Participation is required at all lab sessions. Due to presence of chemicals used in preparation of the cadavers, if pregnant or planning to become pregnant during the semester, please notify the instructor. If any other situation would limit your attendance/participation in lab activities, please notify the instructor on the first day of class (or as soon as the situation becomes known) to determine appropriate course of action. Failure to do so may result in unsuccessful completion of the course.

Grading: See course syllabus - lab scores are added to the cumulative point total for the course.

Lab Rules: Lab coats are required at all times.
NO open toe shoes. Hair longer than shoulder length must be tied back.
NO FOOD OR DRINK ALLOWED IN LAB AT ANY TIME
Dissection is to occur **ONLY** during regular lab times **AND** a faculty member must be present in the lab.
See Lab Manual for additional information.

Independent learning is expected throughout this course. The lab is accessible to PT 422 students any time another class is not using the lab. The lab is to remain LOCKED at all times other than regularly scheduled lab times. Visitors and guests are **NOT** allowed in the gross lab at any time. **Do not block doors open for any reason at any time. You need your student ID to scan into the room.**

The cadavers we are privileged to utilize in the study of gross anatomy are graciously donated to the University through the Deeded Body Program. The opportunity to review and dissect the human body is a privilege that carries with it an important responsibility for treating the human cadaver with utmost respect and dignity. Conversational language of cadaver dissection outside the laboratory should be respectful and discreet and **discussing anatomy lab or the cadaver dissection in any electronic or social media forum is not allowable. Failure to abide by these guidelines may result in disciplinary action and/or dismissal from the course. If any student has a family member or friend that has donated their body to the University through the Deeded Body Program, please notify the course instructor.

Clinical Case Presentation Schedule Fall 2021

<u>REGION</u>	<u>TABLE</u>	<u>DATE</u>
Osteology	Staff	8/27
Gluteal Region/ Posterior Thigh	1	9/1
Anterior/Medial Thigh	5	9/8
Anterior Leg	8	9/15
Popliteal Fossa/ Posterior Leg/Lateral Leg	11	9/17
Foot	4	9/20
Superficial Back (Extrinsic Muscles)/ Rotator Cuff Muscles/Posterior Arm	6	10/4
Deep Back/ Suboccipital Muscles, Post Neck	2	10/11
Anterior Thorax/ Brachial Plexus/ Anterior Arm/Cubital Fossa	12	10/20
Posterior/Anterior Forearm	10	10/25
Hand	7	10/29
Arthrology LE/UE/Spine	9	11/8
Neck/Face/TMJ	3	11/12

Clinical presentations are meant to enhance the learning of the respective area to be dissected. The study of gross anatomy is intended to facilitate clinical decision making. Therefore, whenever possible, clinical information will be utilized to enhance the learning experience in the laboratory.

PT 422: DIAGNOSTIC CASE STUDIES
Grading Criteria and Requirements

A handout not to exceed two pages is required with the handout provided to entire class via electronic means with a printed hard copy provided to the instructor at the time of your presentation. If you have a powerpoint, that should be emailed to faculty for uploading in Blackboard. **Your choice of pathology to discuss should be relevant to the practice of physical therapy and cleared with your TA as to relevance to the course and the profession.**

<u>Points Available</u>	<u>Inclusive Criteria</u>
2	Etiology (cause) Physical, physiological, environmental
2	Risk Factors Age, gender, race, etc.
2	Signs/Symptoms Time of onset, location, duration, what makes it better/worse, etc.
4	Structures Involved Comprehensive list of all anatomical structures applicable (osteological, muscular, ligamentous, cardiovascular, and organ structures)
3	Physical Therapy Intervention Options List and briefly describe 3 (keep it simple) **This is a key area. The case you choose needs to be applicable and require physical therapy intervention.
2	Prognosis and Outcomes
1	Documentation of references used (DynaMed, Pubmed, ClinicalKey, are appropriate starting places; other internet based resources if appropriate; should include practice pattern from the Guide to Physical Therapists Practice)
4	Presentation: 10-15 minutes max. Organization Clarity General understanding of subject (be prepared for questions that may be asked)

Total = 20 points

Good luck and have fun!!

POSSIBLE SOURCES FOR YOUR REFERENCE

(Newer additions may be available)

- Goodman CC, Fuller KS. *Pathology: Implications for the Physical Therapist 5th ed.* Philadelphia, Pa: WB Saunders Company; 2020
- Kisner C, Colby LA. *Therapeutic Exercise: Foundations and Techniques.* 6th ed. Philadelphia, Pa: FA Davis Company; 2013
- O'Sullivan SB, Schmitz TJ. *Physical Rehabilitation Assessment and Treatment.* 6th ed. Philadelphia, Pa: FA Davis Company; 2014
- Roy SH, Wolf SL, Scalzitti DA. *The Rehabilitation Specialist's Handbook.* 4th ed. Philadelphia, Pa: FA Davis Company; 2013
- Brotzman SB, Manske RC. *Clinical Orthopaedic Rehabilitation 3rd ed..* St. Louis, Mo: Mosby; 2011

FEEL FREE TO USE YOUR OWN PAST EXPERIENCES, BE IT THROUGH VOLUNTEERING OR PAST JOBS. SOMETIMES YOU ARE YOUR OWN BEST RESOURCE!