

PT 549: Advanced Applied Anatomy/Clinical Kinesiology

Course Description:

Cadaver dissection is performed and presented to better understand pathology and/or to simulate surgery used to correct or alleviate abnormal conditions. Rehabilitation protocols are designed for specific conditions and presented to the class. The primary focus of this course is in the area of evaluation/progression/discharge as rehab protocols are developed; the secondary focus is in the area of education as the protocols are designed to educate both physical therapists, other medical staff, and patients; the tertiary focus is in the area of communication as communication is critical for these protocols to be adopted by medical staff and rehabilitation specialists.

Faculty: Gary Schindler, PT, DPT, PhD, ATC

Credit Hours: Two (2) Credit Hours

Course Objectives:

Upon completion of this course, students will be able to demonstrate the following:

1. The ability to identify the anatomical structures and describe their biomechanical/ kinesiological role in a variety of diagnoses and postoperative conditions in both the affected and normal states.
2. The ability to apply the principles of tissue healing and therapeutic exercise to rehabilitation procedures and outcome goals.
3. Knowledge of the components that should be included in a physical therapy protocol, the ability to research and develop each component, and the ability to formulate a comprehensive diagnostic-specific treatment protocol.
4. A writing skill that will effectively communicate the details of the surgical procedure elected.
5. An ability to communicate to and educate fellow students in the pathology, surgery, and rehabilitation protocol appropriate for selected musculoskeletal conditions.

Course Requirements:

1. Attendance and participation in a seminar-style class and laboratory sessions. Students will complete a **critique** of each peer presentation.
2. **Orthopedic Surgeries:** Teams of students will present an overview of other **relevant orthopaedic surgeries** common to the assigned region, with rehabilitation considerations highlighted.
 - a) Each team of students will present during a scheduled class period. Appropriate resources are to be cited.
 - b) Team will submit PowerPoint project electronically to course director by day of presentation.
 - c) Topics covered should include:
 1. Relevant Anatomy
 2. Mechanism of Injury (MOI)
 3. Approaches
 4. Indications/Contraindications
 5. Outcomes
 6. Abbreviated Protocol
3. **Main Project** (done in pairs)—Each student pair will complete:

- a) **Dissection** of the anatomical structures involved in or relating to the treatment protocol selected.
- b) **Written surgery document** (2 to 3 pages; list references) detailing surgical procedure. Writing style will be consistent with current edition of AMA Manual of Style. **The paper must be submitted electronically to the instructor and is due the date of presentation.**
- c) **Oral presentation** in a **formal** graduate seminar presentation format and include a description of the diagnoses/condition(s), including:
 - 1) demographics to which the treatment program would apply
 - 2) a review of the anatomical structures involved and other relevant regional anatomy (use appropriate visual aids, e.g. computer projection, video, etc--since we are not allowed to use photographs of the cadaver, video presentation of the surgery is recommended)
 - 3) an understandable description of the surgical techniques involved
 - 4) a presentation of the rehabilitation process with consideration of tissue healing (i.e., time frames), including a walk-through of the rehabilitation protocol (see "d" below).

Students should be prepared to answer questions and demonstrate the ability to defend their treatment methods based on their literature research. Presentations should be 30 to 40 minutes in length, including up to 10 minutes for discussion.

- 5) **the submission of an electronic copy of the PowerPoint presentation to the instructor, due the date of the presentation.** Use AMA format when listing references. (See AMA Quick Reference Citation Format in Blackboard)
- d) **Written protocol** following outline below, including phases of progression, criteria for advancement, evaluation of progress, functional assessment, and maintenance procedures. **Electronic copies of protocols will be provided by the presenters to each course participant and to the instructor (due date of presentation).** Students can incorporate already existing protocol elements; however, support for these elements should be evidence based.

References: List **at least** 10 peer-reviewed (nontextbook), published references among the surgical document, oral presentation, and protocol. References from websites and textbooks will be in addition to these sources. References formatted in accordance with AMA Manual of Style.

Each pair of students must meet with course director to present plan for project **at least** 2 weeks before presentation date. Following dissection but before presentation, arrange to have course director view finished surgery.

Summary of Assignments

- 1) Presentation Critiques
- 2) Main project
 - a) Dissection
 - b) Surgery manuscript
 - c) Oral presentation
 - d) Rehabilitation Protocol
- 3) Surgeries overview

Grading:

Class Participation (critiques)	5%	90%-100%	A
Laboratory Dissection	20%	80%-89.9%	B
Presentation Project		76%-79.9%	C
Written	15%	< 76%	Unsatisfactory
Oral	25%		
Protocol	25%		
Surgeries overview	10%		

Unsatisfactory final grades will be handled according to the guidelines set in the *Scholastic Standards and Professional Guidelines*.

Required and Recommended Texts/Readings:

No required text for this course

Attendance

Attendance policy is in accordance with those listed in the Scholastic Standards and Professional Guidelines. Individual rescheduling the submission of assignments is at the discretion of the course coordinator. Students must notify the instructor for any absences (at a minimum by email) and may be assigned additional coursework for all absences.

Academic Integrity:

In accordance with the rules concerning scholastic dishonesty in the Code of Student Life (<http://und.edu/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**:

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

For any grievance, students are required to work through channels of communication to resolve the problem before approaching the chair or dean. The channel is student, instructor, chair, associate dean health sciences, and dean. (See more in Scholastic Standards)

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, Assistant Vice President for Equal Opportunity and Title IX/ADA Coordinator, 102 Twamley Hall, 701.777.4171, UND.EO.TitleIX@UND.edu or the Office for Civil Rights, U.S. Dept. of Education, 230 S. Dearborn St., 37th Floor, 500 West Madison, Suite 1475, Chicago, IL 60611 or any other federal agency.

Disability Access Statement

Contact your course instructor 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 **Disability Services**, 190 McCannel Hall, or 701.777.2664.

Religious Accommodations

UND offers religious accommodations, which are reasonable changes in the academic environment that enable a student to practice or observe a sincerely held religious belief without undue hardship on the University. Examples include time for prayer or the ability to attend religious events or observe a religious holiday. To request an accommodation, complete [student religious accommodation request form](#) . If you have any questions, you may contact the [Equal Opportunity & Title IX Office](#).

[Pregnancy Accommodations](#)

Students who need assistance with academic adjustments related to pregnancy or childbirth may contact the Equal Opportunity & Title IX Office or Academic Affairs to learn about your options. Additional information and services may be found at [Pregnancy Resources](#).

[Reporting Discrimination, Harassment, or Sexual Misconduct](#)

If you or a friend has experienced sexual misconduct, such as sexual harassment, domestic violence, dating violence, or stalking, please contact the [Equal Opportunity & Title IX Office](#) or UND's Title IX Coordinator, Donna Smith, for assistance: 701.777.4171; donna.smith@UND.edu

You may also contact the Equal Opportunity & Title IX office if you or a friend has experienced discrimination or harassment based on a protected class, such as race, color, national origin, religion, sex, age, disability, sexual orientation, gender identity, genetic information, pregnancy, marital or parental status, veteran's status, or political belief or affiliation.

[Faculty Reporting Obligations Regarding Discrimination, Harassment, or Sexual Misconduct](#)

It is important for students to understand that faculty are required to share with UND's Title IX Coordinator any incidents of sexual misconduct or of discrimination or harassment based on a protected class that 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 impacted by discrimination, harassment, or sexual misconduct, you can find information about confidential support services at the [Equal Opportunity and Title IX](#) webpage.

[Ensure Accessibility](#)

To comply with the latest accessibility guidelines, documents posted online, including, but not limited to, Adobe PDF files, Microsoft Word documents, Microsoft PowerPoint presentations, and online flipbooks, must be screen-reader friendly. For directions on how to make your syllabus and other course materials accessible, go to Blackboard > Services > Atomic Learning > Creating an Accessible Syllabus (for technical assistance with Atomic Learning, contact UND Tech Support at [UND Tech Support](#)).

[Health and Safety](#)

UND is committed to maintaining a safe learning environment while providing quality learning experiences for our students. COVID-19's continued presence within our UND community may necessitate changes in classroom management as the academic year progresses. As such, UND asks students and instructors to be flexible when necessary to promote a safe environment for learning. Please do not attend an in-person class or lab if you are feeling ill, particularly if you are experiencing symptoms of COVID-19, or if you have been directed by health professionals to quarantine or isolate. If you are not able to attend class or lab, please notify your instructor as soon as possible and discuss options for making up any missed work in order to ensure your ability to succeed in the course. If you will have an extended absence due to serious illness or other uncontrollable circumstances, you may request an absence notification through the [Office of Student Rights and Responsibilities](#). Similarly, if your instructor is ill they may need to cancel class or temporarily move your course to online delivery to ensure that you are able to complete the course successfully. Instructors may require students to wear masks in the classroom or in the laboratory as a preventative measure designed to facilitate uninterrupted classroom engagement and to facilitate health and safety in the classroom. If your instructor does require masks in class or in a laboratory, you are expected to comply with that request.

UND also strongly encourages all members of the University community, including students, to get vaccinated, seek out testing when needed, and model positive behavior both on- and off-campus to foster a healthy and safe learning environment for all students. Individuals who would like to discuss disability accommodations regarding masks 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 mask due to a sincerely held religious belief should contact the UND Equal Opportunity and Title IX Office at 701.777.4171 or UND.EO.TitleIX@UND.edu.

APPENDIX MATERIALS FOR PT 549

1) Written Treatment Protocol Outline

The following sections should be included in written protocols:

Indications

Precautions

Patient Education

Goals: (Discharge Goals, Maintenance Goals, etc. should be listed separately)

Criteria for Phase Advancement: (List according to corresponding Phase of treatment)

Phase I: (List approximate time frame, e.g. **Day 1 to 8 weeks postoperative**)

Follow with as many phase advancements as needed to progress patient from immediate postoperative status through physical therapy discharge to maintenance with home program, etc.

2) Laboratory Information

See course director before proceeding with dissection. Other courses and sessions may limit lab schedule. Dissection must take place during normal UNDPT business hours, unless other arrangements have been made with the course director. Your card will be given access to lab during this semester. Only those authorized for access should be in the anatomy lab.

Classmates with earlier scheduled presentations have priority in lab. Students will partner with another for the selected surgery.

Treat cadaver with the same respect and care as expected in PT 604/606: Gross Anatomy Lab

Photography of cadaveric tissue: out of respect for confidentiality of individuals whose bodies have been donated for use in this course, **NO** photography of dissection will be allowed.

When finished with dissection, arrange a meeting time with course director for viewing of your work.

If questions regarding lab work, contact Gary Schindler.

Lab Apparel and Tools

Students will be issued lab coats, gloves, and a face shield (if desired) for lab use. Dissecting tools for PT 549 are available in anatomy lab. Power drill and suture material available in lab cabinets.

Utilize whatever forms of “hardware” necessary to best simulate surgeries performed (screws, rods, etc [check out local hardware stores]). Creativity is a great asset in this area.