

PT 612 Movement System Examination & Evaluation II (3 cr)

Course Description: Integration of examination and evaluation techniques for diagnosis and prognosis of impairments and activity limitations of the human movement system. Emphasis is given to musculoskeletal and neurological examination and evaluation components.

Faculty: Steven Halcrow, PT, DPT; Amanda Wilson, PT, DPT; Michelle LaBrecque PT, DPT; Brittany Johnson, PT, DPT; Cindy Flom-Meland, PT, PhD

Credit Hours: 3 credits

Clock Hours: Tuesday/Thursday; 8:30am- 12pm

Course Prerequisites: Registered in the Professional Physical Therapy curriculum

Course Objectives:

Following the completion of this course the student will:

1. Understand principles and concepts related to orthopedic assessment, including the detailed patient history, observation, AROM, PROM, resisted isometrics, functional assessments, peripheral joint scan, myotomes, dermatomes special tests, reflexes and cutaneous distribution, joint play movement, palpation, and roentgenograms. (7A, 7D10, 7D17, 7D18, 7D19g, 7D19k, 7D19m, 7D19o, 7D19q, 7D19s, 7D19t, 7D19u, 7D19v; Cognitive Domain-Comprehension)
2. Develop basic assessment skills and perform selected assessments to the following areas: (7D10, 7D18; Cognitive Domain-Application; Cognitive Domain-Adaptation)
 - a) Cervical spine
 - b) TMJ
 - c) Shoulder
 - d) Elbow, wrist and hand
 - e) Thoracic spine
 - f) Body mechanics
3. Upon completion of the assessment, be able to identify significant signs and symptoms, determine probable causes of the signs and symptoms, demonstrate clinical decision-making skill, and plan for appropriate physical therapy intervention or referral to other health care professionals. (7B, 7D10, 7D16, 7D18, 7D20, 7D24; Cognitive Domain-Comprehension)
4. Develop basic assessment and clinical decision-making skills. (7B, 7D10, 7D18, 7D20; Psychomotor Domain-Adaptation)
5. Document the findings of the examination and plans for intervention in SOAP format, using evidence based articles to support findings. (7D11, 7D22, 7D31, 7D32; Cognitive Domain-Synthesis)
6. Demonstrate professional behavior and communication skills in all aspects of PT practice including interaction and teaching with patients, family, peers and health care professionals, and understand the implications of individual and cultural differences. (7D5, 7D7, 7D24; Affective Domain-Responding)

7. Demonstrate proper body mechanics principles and give the theory behind the need for proper body mechanics. (7D5, 7D27d; Psychomotor Domain-Complex Overt Response)
8. Correctly perform and interpret the vital sign measurements of heart rate, respiratory rate, blood pressure and pulse oximetry relative to resting and physical activity, health status, and safety. (7D18, 7D19a, 7D19e, 7D19w, 7D20; Psychomotor Domain-Application; Cognitive Domain-Analysis)
9. Analyze posture. (7D19r, 7D34; Cognitive Domain-Analysis)
10. Explain the relationship of the center of gravity of the human body to all body segments (7D19r, 7D34; Cognitive Domain-Comprehension)
11. Discriminate between different posture types. (7D19r, 7D34; Affective Domain-Organization)
12. Identify asymmetry of body parts and determine the significance of such. (7D19r, 7D34; Cognitive Domain-Comprehension)
13. Be able to implement appropriate postural correction procedures. (7D19r, 7D34; Cognitive Domain-Synthesis)
14. Examine muscle strength using manual muscle testing and determine the appropriate muscle grading including (7D19o)
 - a) Define manual muscle testing, and discuss the purposes of manual muscle testing.
 - b) Discuss the reliability and validity of manual muscle testing.
 - c) Define and describe the muscle strength grading system.
 - d) Perform manual muscle testing for a given muscle or muscle group, demonstrating proper positioning, patient instruction, and palpation of the muscles being tested.
 - e) Determine the appropriate muscle strength grade based on the performance of the patient.
 - f) Identify substitution patterns common to individual muscle tests.
 - g) Examine a simulated patient to evaluate muscle strength and analyze the potential for specific etiologies assigned (nerve root versus peripheral nerve injury, muscle injury versus neurological injury, etc.)
15. Examine joint range of motion using goniometric measurements and determine the available ROM including: (7D19s)
 - a) Demonstrate the correct technique of joint range of motion measurement for all joints of the extremities including proper positioning and instruction, correct alignment of the goniometer and correct reading of the goniometer.
 - b) Examine the presence of normal and abnormal range of motion in a given subject, and record the findings using proper nomenclature.
 - c) State the normal range of motion for each joint
 - d) Discuss the purpose, clinical uses, and the reliability of goniometric measurements.
16. Palpate and identify anatomical landmarks and structures. (7D19b)
 - a) Identify and palpate bony landmarks and superficial muscles of each body region.
 - b) Identify and palpate (where possible) major joint structures including ligaments and bursae.
 - c) Identify the location of, and palpate (where possible) major nerves and blood vessels.
 - d) Apply the anatomical landmarks to manual muscle testing and goniometry
 - e) Apply the anatomical landmarks to musculoskeletal examination procedures.

17. Examine adult clients for basic motor control impairments and functional deficits. (7D17, 7D19g, 7D19n, 7D19p, 7D19t, 7D19u; Affective Domain-Responding)
18. Contrast Traditional Models and Task-oriented Model of Neurological Assessment. (Cognitive Domain-Comprehension, Analysis)
19. Identify the purposes and components of the examination of motor function, including but not limited to the following impairments:
 - a) Muscle weakness
 - b) Abnormal tone/reflexes
 - c) Sensory and perceptual dysfunction
 - d) Incoordination
 - e) Balance dysfunction.
20. Analyze use of standardized scales for functional assessment. (7D31, 7D34; Cognitive Domain - Analysis)
21. Apply evaluation screening skills (posture, balance, etc.) that have been learned into “real-life” situations (i.e., lab practical’s, community health fairs, etc) under supervision of instructors.* (7D5, 7D38; Cognitive-Application)
22. Discuss preferred practice patterns for prevention/risk factor reduction and impaired integrity of the integumentary system based on clinical decision making, research, ethical, legal, and professional standards.
 - a) Discuss and implement prevention/risk factor reduction within a comprehensive plan of care
 - b) Identify and classify wounds when presented with written or visual examples
 - c) Discuss and demonstrate wound examination and evaluation
23. Perform an examination and evaluation of the integumentary system to determine appropriate physical therapy diagnosis and intervention including:
 - a) Description of gross anatomical components and relationships along with cellular function as they relate to the examination, evaluation, diagnosis, and prognosis of the client
 - b) Description of cellular response to injury and associated inflammation, repair, and regeneration; including interventions/factors which augment or attenuate healing
 - c) Performing specific techniques of circulatory special tests, observation, wound measurement, and wound staging
 - d) Ability to identify conditions of the integumentary system amenable to physical therapy intervention based upon the client’s current health status.
 - e) Description of medical and surgical interventions used to manage pathological conditions of the integumentary system
 - f) Describe indications and contraindications of interventions for the management of wounds and ulcers by physical therapists

WEIGHTED GRADING:

Assignments – 6% (SOAP Notes, etc.)

Quiz #1 – 4.25%

Quiz #2 – 4.25%

Quiz #3 – 4.25%

Quiz #4 – 4.25%

Check Off #1 – 4.25%

Check Off #2 – 4.25%

Check Off #3 – 4.25%

Check Off #4 – 4.25%

Written Exam #1 – 20%

Written Exam #2 – 20%

Practical Exam #1 – 20%

COURSE GRADE:

90-100% = A

80-89.99% = B

76-79.99% = C

Below 76% = Unsatisfactory

Minimum passing score on practical = 80%

WRITTEN EXAMS:

Written examinations will require a 76% or above to avoid remediation. Remediation will include discussion with a faculty member and **WILL INCLUDE** a re-take of the examination at the discretion of faculty. **The first attempt will be used for all grading purposes.**

LAB PRACTICAL EXAMS:

The student must receive a passing grade (80%) on ALL laboratory practical examinations in order to successfully complete this course. A failed lab practical examination must be repeated and a passing grade received; however **the grade received on the first attempt will be used for all grading purposes.** If the student fails the retake lab practical examination, procedures from the Scholastics Standards document will be initiated.

CHECK-OFF:

The student must receive a satisfactory score on each check-off. If a student does not meet satisfactory requirements, remediation must be completed with a faculty member.

ATTENDANCE:

Attendance is required for all lectures and labs. If you are aware of an upcoming absence, you must provide a written notification (email) to Steven (steven.halcrow@und.edu), prior to absence. Missed material will be your responsibility to make up. Excessive absences may have a negative impact on your final grade. Follow PT guidelines for contacting department with acute illness or injury. 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, dean.

BLACKBOARD

Information in regard to PT 612 will be made available on Blackboard.

REQUIRED TEXTBOOK:

Magee D., Manske R. *Orthopedic Physical Assessment* (7th Ed)
Cram Session in Goniometry and Manual Muscle Testing (Latest edition)

REFERENCE MATERIAL

Dutton M. – “Orthopaedic Examination, Evaluation, & Intervention”
O’Sullivan SB, Schmitz TJ. – “Rehabilitation: Assessment and Treatment”
McNerney T, McGlynn E. – “Reliable Orthopedic Outcome Measures” (ROOM)
Gulick D. – “Ortho Notes” (Clinical Examination Pocket Guide)
Biel - “Trail Guide to the Body” (B) (Latest Ed)

OTHER OPPORTUNITIES

The Department of Physical Therapy has multiple opportunities for students to participate in clinical practice activities under the supervision of UND faculty, all of whom are licensed physical therapists. During this particular course, you may be required to participate in the examination, evaluation, and physical therapy interventions of community members. You will be providing primary care to individuals with impairments and/or dysfunction during laboratory classes, community health fairs, pro bono clinics, and/or within traditional clinical practices.

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 instant messaging, telephone, texting, smart watches, or social media.
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 12/2023

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.

Accessibility Statement

The University of North Dakota is committed to providing equal access to students with documented disabilities. To ensure access to this class and your program, please contact [Accessibility for Students](#) to engage in a confidential discussion about accommodations for the classroom and clinical settings. Accommodations are not provided retroactively. Students are encouraged to register with Accessibility for Students at the start of their program.

More information can be obtained by email, UND.accessibilityforstudents@UND.edu, or by phone at 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 at 701.777.4171 or 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.

Health and Safety

UND is committed to maintaining a safe learning environment while providing quality learning experiences for our students. 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 or if you have been directed by health professionals to quarantine or isolate. UND follows isolation and quarantine guidelines recommended by the [CDC and the North Dakota Department of Health](#). 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 Community Standards](#). 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. Please consult the [COVID-19 at UND](#) webpage for information regarding on-campus COVID-19 testing, isolation and quarantine guidelines, and vaccines.

***Syllabus and Schedule subject to change.**

Week	Date	Lead Faculty	Assist Faculty	Topic
1	Jan 9	Gary		Anatomy Lecture 9:30am-12:30pm
	Jan 11	Gary		Anatomy Lecture: 9:30am-12:30pm
2	Jan 16	Steve	Michelle	Cervical/Thoracic – Myotomes, Dermatomes, Reflexes, RIMs

	Jan 18	Steve	Michelle	Cervical/Thoracic – Surface Anatomy, Goniometry, Special Tests
3	Jan 23	All		Check Off #1 – Cervical Quiz #1 - Cervical
	Jan 25	Steve/ Resident		Shoulder Lecture/Lab
4	Jan 30	Steve	Michelle	Shoulder Lab
	Feb 1	Steve	Michelle	Shoulder Lab
5	Feb 6	Steve		Check Off #2 – Shoulder Quiz #2 - Shoulder
	Feb 8	Brittany	Steve	Elbow
6	Feb 13	Brittany	Steve	Forearm/Wrist
	Feb 15	Brittany	CSM	Shoulder/Forearm/Elbow/Wrist Case Applications
7	Feb 20	All		Check Off #3 – Elbow/Forearm/Wrist/Hand Quiz #3 – Elbow/Forearm/Wrist/Hand
	Feb 22	Brittany	Steve	Hand Lecture/Lab
8	Feb 27	Steve	All	UE Exam with SOAP Note Assignment
	Feb 29			Workday for SOAP note
9	Mar 5			Spring Break
	Mar 7			Spring Break
10	Mar 12	Steve	Michelle	Review for Midterms
	Mar 14	Steve	Michelle	Review for Midterms
11	Mar 19 - Mar 21	All		Midterm Exam Week Will consist of a Written Exam and Practical Exam Practical Exam will be with standardized patients
12	Mar 26	Steve		Wound Care/Integumentary
	Mar 28	Steve		Quiz #4 – Wound Care/Integumentary
13	Apr 2	Steve		Check Off #4 – Wound Care
	Apr 4	Amanda	Michelle Cindy	Intro into Motor Learning
14	Apr 9	Amanda	Cindy Amanda	Intro to Vestibular Assessment

	Apr 11	Amanda	Michelle Cindy	Assessment of Neurological Pathologies/Balance Pathological Gait
15	Apr 16	Amanda	Michelle Cindy	Assessment of Neurological Pathologies/Balance Pathological Gait
	Apr 18	Steve	Michelle	Lower Extremity Review
16	Apr 23	Steve	Michelle	Lower Extremity Exam with SOAP Note Assignment
	Apr 25	Steve	Michelle	Upper Extremity Review
17	April 30	Steve		TMJ
	May 2	Steve		Review for Finals
18	May 6 – May 10			Finals Written Final Only (Will consist of material from March 26 to May 2)