

PT 415: MOTOR CONTROL
Spring Semester, 2021

Lecture/Lab: 2:00 – 4:00 p.m. (*1:00) Monday/Wednesday/Friday

Zoom Link: <https://und.zoom.us/j/91671466269>

Instructors: Meridee Danks, Cindy Flom-Meland & Michelle LaBrecque

Texts: *1. O’Sullivan S, Schmitz T. *Physical Rehabilitation*. 7e, 2018

*2. O’Sullivan S, Schmitz T. *Improving Functional Outcomes in Physical Rehabilitation*. 2e 201

*3. [Ref. Text]: Magill R, Anderson D. *Motor Learning & Control: Concepts & Applications*, 11e

*FREE on AccessPhysiotherapy thru UNDSMHS Library

<u>DATE</u>	<u>LECTURE/LAB</u>	<u>READINGS</u>
Jan 13	Zoom Intro Motor Control - Theories & Models	1) Ch 5 pp 157-162, Ch10 pp361-68 2) Ch 1
Jan 15	Zoom Motor Control Theories	3) CH 1,3&5 (Ch 4 Neuro Review)
Jan 18	Martin Luther King Day - No Class	
Jan 20	Zoom Quiz I - Motor Control Theories/Motor Learning	1) Ch 5, pp162-66, Ch 10, pp364-81 2) Ch 2
Jan 22	Zoom Motor Learning/Recovery of Function	3) Ch 11-19 ML; HO
Jan 25	Zoom Motor Learning (cont.)	“ “
Jan 27	Written Exam I – Exemplify/ExamSoft	
Jan 29	Zoom Clinical Decision Making (CDM)/Neuro Assessment	1) Ch 1,5 &15 (Exam section) 2) Ch 1
Feb 1	Zoom Impairment: <i>Cognitive Dysfunction</i>	1) Ch 5,19 & Ch 27; 2) <u>Case #1</u> 3) Ch 9,10
Feb 3	Zoom Impairment: <i>Cognitive Dysfunction</i> cont.	1) Ch 5,19 & Ch 27; 2) <u>Case #1 TBI</u>
Feb 5	Zoom Impairment: <i>Sensory/Perceptual</i>	1) Ch 3 & 27; HO 3) Ch 6
Feb 8	Lab* Sensory/Perceptual A/B: *1:00-2:30; C/D: 2:30-4:00	1) Ch 3 & 27; HO
Feb 10	Zoom Quiz II – Impairment: Weakness/Abnormal Tone	1) Ch 4, 5 & 10
Feb 12	Zoom Impairment: <i>Abnormal Tone</i>	1) Ch 4, 5 & 10
Feb 15	President’s Day - No Class	
Feb 17	Zoom Paper I Due – Impairment: Incoordination	1) Ch 6 (1 st part) 2) Case 6; HO
Feb 19	Zoom Theoretical Approaches to Treatment	1) Ch 10, 15 2) Ch 2; HO
Feb 22	Written Exam II – Exemplify/ExamSoft	
Feb 24	Lab PNF - UE/LE Diagonals C/D 2-3:00; A/B 3-4:00	2) Ch 3; HO
Feb 26	Lab PNF - UE/LE Diagonals A/B 2-3:00; C/D 3-4:00	“ “
Mar 1	Lab PNF NM Facilitation/Ther Ex C/D 2-3:00; A/B 3-4:00	1) Ch 10 2) <u>Ch 2</u>
Mar 3	Lab PNF NM Facilitation/Ther Ex A/B 2-3:00; C/D 3-4:00	1) Ch 10 2) <u>Ch 2</u>
Mar 5	Lab Quiz III- Bed Mobility-Supine C/D 2-3:00; A/B 3-4:00	1) Ch 10,15 2) <u>Ch 4</u>
Mar 8	Lab Bed <u>Mobility</u> - Supine A/B 2-3:00; C/D 3-4:00	1) Ch 10,15 2) <u>Ch 4</u>
Mar 10	Lab PT 415/417 Combined Practical I – Neuro Exam (Sensory/Proprioception/Tone/Coordination)	
Mar 12(Fri)	No Class	
Mar. 15-20	Spring Break - No Class	
Mar 22	Lab* Low Trunk/Hooklying A/B *1:00-2:30; C/D *2:30-4:00	1) Ch 10, 15 2) <u>Ch 4</u>
Mar 24	Lab Low Trunk/Hooklying C/D 2:00-3:00; A/B 3:00-4:00	1) Ch 10, 15 2) <u>Ch 4</u>
Mar 26	Lab Prone/Quadruped Activities A/B 2-3:00; C/D 3-4:00	1) Ch 10 2) <u>Ch 4; T2.1; HO</u>
Mar 29	Lab Upright – Kneeling C/D 2:00-3:00; A/B 3:00-4:00	1) Ch 10 2) <u>Ch 6</u>
Mar 31	Written Exam III/Written Practical II – Exemplify/ExamSoft	
Apr 2(Fri)	Easter Break – No Class	
Apr 5 (Mon)	Easter Break – No Class	
Apr 7	Zoom Impairment: <i>Balance/Postural Control</i>	1) <u>Ch 6</u> , 10 2) <u>Ch 9</u> , Ch 13-Vestibular
Apr 9	Lab Upright Progression/Sitting A/B 2-3:00; C/D 3-4:00	1) Ch 10,15 2) <u>Ch 5</u> ; Case Study #1
Apr 12	Lab* Balance Assessments C/D *1:00-2:30; A/B 2:30-4:00	1) Ch 6; Ch 8 2) <u>CH 9</u>
Apr 14	Lab Sit-to-Stand/Transfers A/B 2-3:00; C/D 3:00-4:00	2) <u>Ch 7</u>
Apr 16	Lab Quiz IV- Mod. Plantigrade/Standing C/D 2-3:00; A/B 3-4:00	2) <u>Ch 9</u>
Apr 19	Lab Paper II Due – Balance A/B 2-3:00; C/D 3:00-4:00	1) Ch 11 2) <u>Ch 9</u> ; Case #4 p274
Apr 21	Lab Balance Training C/D 2-3:00; A/B 3-4:00	1) Ch 7,11 2) <u>Ch 9-10</u> , Case #2&3
Apr 23	Lab Locomotion: Gait/WC A/B 2-3:00; C/D 3:00-4:00	1) Ch 11 2) <u>Ch 10, Ch 8</u> Case #2&3
Apr 26	Lab UE Activities/CIMT C/D 2-3:00; A/B 3-4:00	1) Ch 15 2) <u>Ch 11-12</u> ; Case #5
Apr 28	Lab* Review/Cases A/B 2:00 – 4:00	
Apr 30	Lab* Review/Cases C/D 2:00 – 4:00	
May 3-6	Finals Week - Written Exam IV & Comprehensive Final Practical -TBA	

ASSIGNMENTS:

Written Project I: (Due Feb 17) - Review of a *chapter of a book* or a *published article* on the theoretical framework for therapeutic exercise related to Motor Control and Learning or Sensory and/or Perceptual Dysfunction, Muscle Weakness/Strengthening, Abnormal Tone, Coordination, Balance/Postural Control. May include, but not limited to, Motor Control Theories, Contemporary Task-Oriented Model, or Motor Learning. The review should include the purpose of the article or chapter, an overview of the article or chapter, and how you feel this theory, technique or exercise program may be beneficial to you as a practicing physical therapist. Paper should be concise and precise, at least 2 double-spaced, *typewritten* pages). Reference need to be included in AMA format (refer to a PT journal). (10 pts)

Written Project II: (Due April 19) - Review a *recently published EBP article* (within the last 10 years and a different area from Project I) of literature pertaining physical therapy intervention and to one of the following: Muscle Re-education, Coordination Exercises, Relaxation Techniques, Functional Mobility Training, PNF, Rood Approach, Brunnstrom Approach, or NDT-Bobath Approach. The review should include an overview of the article of therapeutic exercise and your interpretation of the clinical benefits of the information. Paper should be concise and precise, at least 2 double-spaced, *typewritten* pages. Reference need to be included in AMA format (refer to a PT journal). (10 pts)

GRADING CRITERIA: Based on written exams, practical exams, quizzes, written projects, and other class assignments. Students will be expected to achieve a score of at least **80% on the practical examinations** and **76% on written exams**. If a student receives less than the minimum score, he/she will keep the original score, but will have **2** attempts to meet the minimum requirement. If failure to do so, student will fail the class as per UND-PT Dept. Scholastic Standards.

Grading Scale:

90 - 100% = A

80 - 89% = B

76 - 80% = C

76% = Unsatisfactory

***Attendance is expected of all students for both lecture and laboratory sessions.** Lab clothes will be required on occasion. A **written excuse** must be given or e-mailed to the instructor and Alyson prior to the dates you will be absent. If it is an unexpected absence, the student needs to call the front office (777-2831). The student is responsible for making up all assignments. With an *unexcused absence*, the student will forfeit the option to make up the assignments and/or the student will lose the points on any quizzes or tests given that day. **Professional behavior** is expected and required — as outlined by the Scholastic Standards and Professional Guidelines in your Graduate Survival Guide. At the discretion of the instructor, attendance and behavior in class may be a factor in the student's course grade. Late assignments may be subject to penalty upon instructor's discretion.

NOTE: If you plan to request disability accommodations in this course, you are expected to contact Disability Services for Students (DSS), McCannel Hall, Rm190, 777-3425 v/tty, dss@und.edu or www.und.edu/dept/dss . If you need accommodations in this course because of a disability, if you have emergency medical information to share, or if you need special arrangements in case the building must be evacuated, please make an appointment with Meridee, 777-3861 or meridee.danks@und.edu

Non-discrimination statement

As part of its commitment to providing an educational environment free from discrimination, UND complies with Title IX of the Education Amendments, which prohibits discrimination and harassment based upon sex in an institution's education programs and activities. Title IX prohibits sexual harassment, including sexual violence, of students at UND-sponsored activities and programs whether occurring on-campus or off-campus. Title IX also protects third-parties, such as visiting student athletes, from sexual harassment or violence in UND's programs and activities and protects employees from sexual harassment and

discrimination. Prohibited harassment includes acts of verbal, nonverbal or physical aggression, intimidation or hostility based on sex, even if those acts do not involve conduct of a sexual nature; sex-based harassment by those of the same sex; and discriminatory sex stereotyping. UND will take prompt action to investigate and resolve reports of sexual harassment or sexual violence in accordance with Title IX. UND's Title IX coordinator is Donna Smith, Director of Equal Employment Opportunity/Affirmative Action, 401 Twamley Hall, 264 Centennial Drive Stop 7097, Grand Forks, ND 58202-7097, 701-777-4171, donna.smith@und.edu. Retaliation against any person who initiates an inquiry or complaint or participates in the investigation of a complaint is prohibited. Such conduct will be further cause for disciplinary action.

Brief Information about reporting

Any student who has been impacted by sexual violence (sexual assault, domestic violence, dating violence, stalking) or gender-based misconduct is encouraged to report and seek appropriate resources on campus. Please contact the Title IX Coordinator (Donna Smith, donna.smith@und.edu or 701-777-4171) to discuss your options. To view the policy and additional resources, please visit: <http://und.edu/finance-operations/university-police/sexual-violence-programs.pdf>.

How to recognize a student is in distress – for faculty, staff, and students

The UND Cares program (<http://und.edu/und-cares/>) seeks to educate faculty, staff and students on how to recognize warning signs that indicate a student is in distress. We use the term “distressed” when any of the following criteria apply to a student:

- Student has significant changes in eating, sleeping, grooming, spending, or other daily activities.
- Student has cut off or minimized contact with family or friends.
- Student has significant changes in performance or involvement in academics, sports, extracurricular, or social activities.
- Student describes problems (missing class, not remembering, destructive behavior) that result from experiences with drinking or drugs.
- Student is acting withdrawn, volatile, tearful, etc.
- Student is acting out of character or differently than usual.
- Student is talking explicitly about hopelessness or suicide.
- Student has difficulty concentrating or difficulty carrying on normal conversation.
- Student has excessive dependence on others for company or support.
- Student reports feeling out of control of one's emotions, thoughts, or behaviors.

How to seek help when in distress

We know that while college is a wonderful time for most students, some students may struggle. You may experience students in distress on campus, in your classroom, in your home, and within residence halls. Distressed students may initially seek assistance from faculty, staff members, their parents, and other students. In addition to the support we can provide to each other, there are also professional support services available to students on campus through the Dean of Students and University Counseling Center. Both staffs are available to consult with you about getting help or providing a friend with the help that he or she may need. For more additional information, please go to <http://und.edu/und-cares/>.

Faculty reporting obligations regarding sexual violence

Classroom discussions or assignments may lead a student to disclose information about an incident of sexual violence that occurred recently or in the more distant past. It is important for students to understand that faculty are required by federal law to report to the 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. Reporting the incident 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 <http://und.edu/affirmative-action/title-ix>.