PTHA 2531 Management of Neurologic Disorders
Syllabus

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Office Hours:	by appointment only
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Lecture and Lab:	1 full-day (8 hours) and 2 half-day (4-5 hours) sessions for 5 weeks with additional on-line supplementation

I. COURSE DESCRIPTION

Advanced course integrating previously learned and new skills/techniques into the comprehensive rehabilitation of selected neurological disorders.
Prerequisites: Successful completion of prior PTHA courses.

II. GENERAL COURSE LEARNING OUTCOMES

Analyze the concepts and principles of comprehensive management of neurological disorders; demonstrate implementation and modification of a comprehensive treatment approach for neurological disorders; and utilize relevant communication techniques.

III. GENERAL OBJECTIVES

1. Discuss the potential effects of in-attendance and tardiness in the classroom/lab setting.
2. Demonstrate professional behaviors when representing the PT profession.
3. Describe errors and discuss correct responses upon completion of a practical exam or skill check.
4. Demonstrate acceptance and application of faculty feedback on written, oral and practical exams.

IV. SPECIFIC OBJECTIVES

On a written examination with 75% proficiency, the student will be able to:

Motor Control:

1. Define terms used in common motor control deficits.
2. Differentiate between motor control, motor development, and motor learning.
3. Identify the stages of motor control and techniques to foster each stage.
4. Compare characteristics of the various theories of motor development.
5. Select appropriate treatment strategies for patients with deficits in motor control.
6. Distinguish between phases of motor learning and select treatment techniques to foster each phase

Pediatrics:

7. Discuss general concepts of the developmental progression.
8. Sequence the normal motor development of a child and give general ages when milestones are reached.
9. Recognize reflexes, righting and equilibrium reactions in a normal child.
10. Recognize the clinical manifestations of various pediatric disorders including Cerebral Palsy, Spina Bifida, and Muscular Dystrophy.
11. Identify indications of changes in muscle tone.
12. Given a case scenario, formulate treatment strategies to address noted deficits in patients with various pediatric disorders.

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Sensation, Vision, and Perception:

13. Discuss the significance of sensory deficits in patients with motor control issues.
14. Select appropriate sensory stimulation techniques to foster a desired motor response.
15. Modify treatment strategies within the Physical Therapist plan of care based on the presence of various visual disturbances, body scheme/body disorders, spacial relations, agnosia, and apraxia.

Proprioceptive Neuromuscular Facilitation:

16. Define PNF.
17. List the component motions of the extremity unilateral and bilateral PNF patterns.
18. Given a patient case scenario and Physical Therapist plan of care, select appropriate PNF treatment techniques.
19. Describe the tenets of therapeutic exercise as applied with proprioceptive neuromuscular facilitation such as diagonal patterning; stretch; manual, verbal, and visual cueing; resistance; developmental sequence; and timing of movement.

Communication:

20. Compose a list of treatment suggestions for dealing with a patient with communication deficits.
21. Identify the prognostic indicators for various communication disorders.

Functional Assessment:

22. Describe the Functional Independence Measure (FIM).
23. Given a patient scenario, accurately score a patient using the FIM assessment instrument.

Stroke/CVA:

24. Describe the signs and symptoms of stroke resulting from occlusion or hemorrhage of different arteries in the brain.
25. Identify the medical management of the stroke patient including acute tests and measures, medication, and surgical intervention.
26. Describe the significance of the Bobath stages of recovery.
27. Identify the component parts of the typical synergy patterns and resting positions.
28. Describe the basic underlying theory and integral component parts of the Neurodevelopmental Technique (NDT) approach to treatment.
29. Given a case scenario, outline a progressive treatment program for various patients with a stroke emphasizing: bed mobility, functional strengthening activities, sitting activities, transfers, w/c activities, and (if applicable) gait training based on the physical therapist's plan of care.

Arousal/Cognition:

30. Identify appropriate treatment techniques for patients with either abnormally low or high arousal levels.
31. Given a patient case scenario, modify treatment strategies within the Physical Therapist plan of care based on cognitive and/or arousal level.

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Traumatic Brain Injury:

32. Describe the medical management of a patient after TBI including ICP monitoring, medication, and surgery.
33. Identify acute complications associated with traumatic brain injury.
34. Describe two different clinical rating scales used to define recovery from traumatic head injury.
35. Given a case scenario, outline a progressive treatment program for various traumatic brain injured patients emphasizing: bed mobility, functional strengthening activities, cognitive/behavioral activities, sitting activities, transfers, w/c activities, and (if applicable) gait training and developmental activities based on the physical therapist's plan of care.
36. Compare and contrast CVA and TBI patients in regard to the typical patient, etiology, signs and symptoms, and prognostic indicators

Wheelchair Assessment and Mobility:

37. Identify wheelchair modifications necessary for various neurological deficits.

Coordination and Deficits:

38. Identify the common coordination deficits associated with lesions of the cerebellum, basal ganglia and dorsal columns.

Spinal Cord Injury:

39. Identify the major etiological factors associated with traumatic spinal cord injury
40. Describe the clinical presentation following damage to the spinal cord
41. Describe the indirect impairments and complications associated with spinal cord injury
42. Identify the expected functional outcomes for patients with spinal cord injury at various lesion levels.
43. Describe appropriate rehab interventions for the acute, active rehabilitation and chronic phases of management.

On a lab partner and/or a lab practical examination with 75% proficiency, the student will be able to:

44. Demonstrate instruction with confidence, of a simulated patient with motor control problems in a treatment program based on a physical therapist's plan of care.
45. Demonstrate beginning skill in performing PNF extremity patterns.
46. Demonstrate instruction with confidence, of a simulated neurologically-impaired pediatric patient and/or their caregiver in a treatment program based on the physical therapist's plan of care.
47. Demonstrate instruction with confidence, of a simulated patient with a stroke in a treatment program developed in the physical therapist's plan of care using appropriate demonstration, documentation, communication, and interpersonal skills.
48. Demonstrate instruction of a simulated patient with traumatic brain injury in a treatment program developed in the physical therapist's plan of care using appropriate demonstration, documentation, communication, and interpersonal skills.
49. Demonstrate instruction of a simulated patient with a spinal cord injury in a treatment program developed in the physical therapist's plan of care using appropriate demonstration, documentation, communication, and interpersonal skills.

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50. Demonstrate the ability to document PT interventions as they relate to various patients with neurological deficits.

V. GRADING

A - 92-100
B - 83-91
C - 75-82
D – 66-74
F – 65 and below

A grade below 75 constitutes unsatisfactory understanding of the course content and/or unsatisfactory performance of skills.

VI. TEXT REQUIREMENTS

1. Neurologic Interventions for Physical Therapy, Third Edition, Martin & Kessler, Saunders, 2016.

VII. METHODS OF PRESENTATION

1. Lecture
2. Demonstrations
3. Multi-Media Presentations
4. Laboratory Work/Case Studies
5. Interactive Group Activities

VIII. UNITS OF INSTRUCTION

1. Motor Control/Motor System
2. Pediatrics
3. Proprioceptive Neuromuscular Facilitation
4. Sensation and Sensory Stimulation
5. Perceptual Deficits
6. Communication
7. Functional Assessments
8. Cerebrovascular Accident
9. Cognition/Arousal
10. Traumatic Brain Injury
11. Spinal Cord Injury
12. Parkinson Disease, MS, other

IX. EVALUATION

Unit Tests (6 exams) (40% of final grade)	100 points each = 600 points
Lab Practical Exams (3 practicals) (25% of final grade)	100 points each = 300 points
Case Studies (11 case studies) (10% of final grade)	50 points each = 550 points
Pop Quizzes/Kahoots (8 quizzes) (5% of final grade)	10 points each = 80 points
Attendance/Participation (15 sessions) (5 % of final grade)	10 points each = 150 points
Lab Checklists (5% of final grade)	100 points each = 100 points
Final Lab Practical (10% of final grade)	100 points each = 100 points

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X. ATTENDANCE AND ABSENTEEISM

TARDINESS AND ABSENCES ARE STRONGLY DISCOURAGED

Students are responsible for the attendance policies in the **Northeast Texas Community College Student Handbook and the PTA Policy and Procedure Manual.** Roll will be informally taken at the beginning of each class meeting. Pop quizzes will be given periodically and unannounced at the beginning of or during a class period. A student cannot make up a pop quiz. In order to take the pop quiz, the student must be in the classroom when the quiz questions are given.

For this class, the following guidelines concerning attendance will be enforced.

1. For every class period missed, one (1) absence is accumulated.
2. A student more than five minutes late or leaves class early (5-10 minutes) with or without instructor permission is considered tardy.
3. Three (3) tardies constitute (1) absence.
4. After 3 absences (excused or unexcused) per semester, the instructor will evaluate the purpose for the absences and make a determination whether the student will be allowed to maintain his/her placement in the program.
5. Make-up work is required for absences in order to ensure that the student acquires information and skills presented during his/her absence (see Make-up work section)
6. Students must notify the PTA office in advance whenever excessive (>30 minutes) tardiness or absence is unavoidable.

*Note: An absence will be excused by prior notification to the program; provision of a note written and signed by a medical professional; and by uncontrollable or unavoidable extenuating circumstances. All other absences/tardies will be considered unexcused. A tardy will be excused by reasonable explanation of uncontrolled or unavoidable circumstances.

MAKE-UP WORK

Due to Absence ONLY:
Each student is responsible for all material and techniques presented in class and labs. If a class is missed, the student is responsible for obtaining, from a classmate, notes, handouts and information covered during that absence. **It is the student's responsibility to schedule a time with the instructor to make up any missed lab check-offs, within one week of absence or the student will not be allowed to take the practical exam.** Due to the nature of this course, make up will only be with extenuating circumstances.

If a lecture test or lab practical is missed, the student must make-up that test upon return to school, providing appropriate notification of absence was made prior to the original test time. **Lack of notification prior to exam time** will result in a grade of "0" for the missed exam; notifying classmates to relay the student's absence in not acceptable. One make-up test or lab practical due to **excused** absence, per class, per semester is allowable without penalty. If more than one make-up test is required, due to absence, the instructor has the prerogative to determine whether the test can be made up; the maximum grade allowed will be "75". **It is the student's responsibility to set up a time with the instructor to make up the exam**.

No late or make-up work will be permitted for video assignments, group work, article reviews, chapter

reviews, presentations or pop quizzes.

Due to failure of safety criteria on lab practical exam:

On lab practical exams areas of the exam are considered to be patient safety issues; if a student fails patient **safety element/criteria** he/she will be required to redo the lab practical. The highest grade that a student can receive on a redo exam is "75". If a student fails the safety criteria on the **re-do** practical exam, the student will be given a grade of "0" on the practical and automatically fails the practical lab portion of the course.

XI. CLASS PREPAREDNESS

Students are expected to complete all reading assignments, as outlined in the course schedule or assigned by the instructor, prior to class time. It is the responsibility of the student to turn in assignments on time. Assignments are due at the beginning of the class period. Late assignments received by the next class period will result in a maximum grade of 75. If an assignment is not turned in by the next class period the student will receive a grade of "0" for that assignment.

Students are expected to participate in and perform a variety of physical therapy procedures on each other in lab and the classroom for educational purposes; after practicing each lab skill, the student will be asked to present a return demonstration to the instructor at some point prior to the conclusion of the lab.

This participation is vital to the learning process. The student's consent is needed to participate in these procedures.

XII. PTA PROGRAM ACADEMIC HONESTY POLICY

In addition to upholding the NTCC Academic Honesty Policy, students in the PTA program are required to follow the honor code provided in the program policy and procedure manual. The program honor code states that you will neither give nor receive any unauthorized assistance from any person, paper, or object on any test, paper, examination, or project. This includes talking about lab practical exams, regular exam questions, looking at copies of old tests from previous students, copying or allowing anyone to copy off of your test or assignment, and discussing any aspect of an exam with a student who has not yet taken the test. When using another person's words or ideas, credit should be given to the source. Failure to abide by this policy may result in expulsion from the PTA Program.

Violations of this policy will be brought to the attention of the student by the instructor. If there is suspicion of wrongdoing without corroborating evidence, the matter will be discussed with the student and a written warning/contract will be issued if warranted. If there is clear evidence that a violation has taken place, the student will receive a grade of "0" for that test/assignment in question; and the instructor will impose a sanction ranging from a written warning to expulsion from the course with a failing grade.

If the student does not feel that the issue is satisfactorily resolved, the student should contact the PTA Program Director to discuss the matter. If the matter cannot be resolved at that level, the student may contact the Dean of Allied Health, followed by the Vice President for Instruction and Student Development. If the issue in not satisfactorily resolved at the end of this process, the student may initiate a formal grievance procedure outlined in the NTCC Student Handbook and in this manual.

XIII. ADA STATEMENT

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It is the policy of Northeast Texas Community College to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state and local laws, regulations and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to arrange an appointment with a College counselor to obtain a Request for Accommodations form. For more information, please refer to the Northeast Texas Community College Catalog or Student Handbook.

The instructor reserves the right to make modifications in content and schedule as necessary to promote the best education possible within prevailing conditions affecting this course.