

# PTHA 2535 – Rehabilitation Techniques

# (Hybrid)

Course Syllabus: Spring 2025

"Northeast Texas Community College exists to provide personal, dynamic learning experiences empowering students to succeed."

**Physical Therapist Assistant Program** 

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Office	Monday	Tuesday	Wednesday	Thursday	Friday	Online
Hours	1:30-5:00	9:00-11:00	1:30-5:00	9:00-11:00	By appt.	N/A

# This syllabus serves as the documentation for all course policies and requirements, assignments, and instructor/student responsibilities.

Information relative to the delivery of the content contained in this syllabus is subject to change. Should that happen, the student will be notified.

**Course Description:** Comprehensive rehabilitation of selected diseases and disorders. **Prerequisite(s):** Successful completion of PTHA courses up this point in the curriculum.

# **Student Learning Outcomes:**

# GENERAL COURSE LEARNING OUTCOMES:

The student will be able to describe physical therapy management of patients with selected diseases and disorders; demonstrate rehabilitation techniques for diseases and disorders; and demonstrate communication skills.

#### **GENERAL OBJECTIVES:**

- 1. Attend all classes and arrive on time
- 2. Discuss the potential effects on co-workers and patients on in-attendance and tardiness in the clinical setting
- 3. Demonstrate acceptance and application of faculty feedback on written, oral and practical exams
- 4. Discuss ways to demonstrate empathy in dealing with a patient in pain or under stress
- 5. Seek opportunities to promote access to or awareness of Physical Therapy
- 6. Display empathy in dealing with a patient in pain or under stress during role play.
- 7. Demonstrate professional behaviors when representing the PT profession
- 8. Seek opportunities to promote access to or awareness of Physical Therapy
- 9. Meet discharge planning needs and follow-up care as outlined by the PT in the POC within the legal and ethical abilities of the PTA
- 10. Recognize when the directions to perform an intervention is beyond the scope of a PTA; and, report and discuss with the Physical Therapist
- 11. Adjust interventions within the POC established by the PT in response to the patient's signs and symptoms and report to supervising PT
- 12. Demonstrate appropriate verbal and non-verbal communication with the patient, caregivers, and physical therapist in an effective, appropriate, capable manner.
- 13. Identify and demonstrate communication techniques to use when speaking to people with language barriers

- 14. Recognize cultural, religious, and individual differences of the patient/family members that should be considered when providing PT intervention
- 15. Respond appropriately to cultural, religious, and individual differences of the patient/family members during role play

#### SPECIFIC OBJECTIVES:

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

# **Cardiopulmonary Conditions and Interventions:**

- 1. Identify when it is appropriate to measure the vital signs, including pulse, respiratory rate, blood pressure, pain level, and oxygen saturation.
- 2. Identify the effects of long-term bed rest and response to positional changes
- 3. Develop and implement appropriate breathing exercises per given scenario
- 4. Define the disease process of COPD, Asthma, Cystic Fibrosis and Restrictive Lung disease.
- 5. Identify common diseases and diagnoses associated with respiratory failure
- 6. Identify potential complications of respiratory failure and discuss their impact on rehabilitation and functional capacity
- 7. List the components of pulmonary rehab program and home exercise program
- 8. Formulate realistic treatment activities for pulmonary patients per POC
- 9. Recognize various pathological breath sounds
- 10. Recognize the importance of breath control during ambulation or exercise routines
- 11. Communicate any change in patient status to supervising PT
- 12. Recognize signs of respiratory concerns i.e. cyanosis, shortness of breath, labored breathing, etc.
- 13. Recognize precautions/contraindications for postural drainage
- 14. Describe the etiology and pathology of coronary heart disease
- 15. Define congestive heart failure
- 16. Identify implications for rehabilitation interventions with cardiac patients
- 17. Recognize the more common medications used in the treatment of cardiac problems
- 18. Determine effective cardiac rehabilitation interventions for patients with heart failure
- 19. Describe the age adjusted maximum heart rate using the Karvonen Method
- 20. Identify several guidelines for the development of aerobic fitness related to frequency, intensity, duration, and mode of activity
- 21. Identify normal lab value ranges with the pulmonary patient
- 22. Discern potential affects that abnormal lab values might have on rehabilitation interventions and outcomes

#### Osteoarthritis (DJD) and Rheumatoid Arthritis

- 1. Describe the pathological processes of Rheumatoid Arthritis (RA) and Osteoarthritis (OA)
- 2. Differentiate the clinical signs between RA and OA
- 3. Identify three major stages of RA and for each stage, outline appropriate physical therapy treatments for a RA patient based on an established POC
- 4. Outline appropriate physical therapy treatment for an OA patient based on an established POC
- 5. Outline the pathological sequence of RA
- 6. Describe various principles of joint protection to be taught to a patient with RA and OA
- 7. Describe the medical and pharmacological management of the individual with arthritis
- 8. Demonstrate the ability to document physical therapy interventions as they relate to arthritic patients

# **PNF Patterns:**

- 1. State the philosophy of PNF
- 2. Indicate the rationale for using the PNF approach to address movement impairment
- 3. List the PNF patterns for the extremities
- 4. Describe applications of extremity patterns in neurorehabilitation
- 5. Choose appropriate basic PNF diagonals for upper and lower extremities
- 6. Demonstrate using manual contacts, voice tone/verbal cues, timing for emphasis and appropriate PNF techniques for various conditions presented in a given patient scenario.

# TJR/Arthroplasty & Surgical Interventions:

- 1. Discuss common surgical techniques/interventions for the arthritic joint
- 2. Recognize the general healing principles after arthritic surgical interventions
- 3. Recognize factors which limit or slow healing after joint reconstructions
- 4. Describe basic treatment techniques for the post-op total knee replacement patient
- 5. Describe basic treatment techniques for the post-op total hip replacement patient
- 6. Describe basic treatment techniques for the post-op total shoulder replacement patient
- 7. Develop appropriate joint arthroplasty protocol for a given joint replacement

#### Vestibular Rehab:

- 1. Identify and differentiate vestibular symptoms from other manifestations of vertigo, dizziness, and disequilibrium
- 2. Explain and demonstrate the methods/specific tests for identifying vestibular dysfunction
- 3. Based on the vestibular dysfunction identified in the POC, perform the appropriate techniques for treating the vestibular dysfunction
- 4. Recognize the more common medications used in the treatment of vestibular conditions
- 5. Relate what it feels like to have vestibular dysfunction
- 6. Describe various commonly used assessments of balance and the vestibular system
- 7. Construct an appropriate treatment strategy for patients with balance of vestibular system deficits

#### Vascular & Lymphatic Disorders:

- 1. Describe the anatomy, physiology, and pathophysiology of the vascular, lymphatic, and integumentary systems
- 2. Differentiate the types of arterial, venous and lymph disorders and their clinical manifestations
- 3. Identify pharmacological management and/or exercise treatments of the various vascular disorders
- 4. Discuss the risk factors for pathologies associated with the consequences of lymphedema
- 5. Recognize the common examination techniques for a patient with lymphedema
- 6. Identify the components of complete decongestive therapy
- 7. Describe treatment modifications that may need to be considered for patients with arterial/venous/& lymph disorders.

# **Pregnancy & Pelvic Health:**

- 1. Identify anatomical and physiological changes that occur during pregnancy
- 2. Explain how prenatal and postnatal exercise can be of benefit to the patient
- 3. Discuss risks and benefits of exercise for both mother and baby
- 4. Describe physiologic adaptations to exercise during pregnancy
- 5. Recognize absolute and relative contraindications to exercise during pregnancy
- 6. Identify the muscle layers and specific muscles of the pelvic floor and list the muscle functions
- 7. Give examples of specific pelvic pain conditions and common physical therapy interventions
- 8. Describe normal bladder function/events of continence
- 9. Differentiate the various types of urinary incontinence and behavioral treatment options

#### **Amputations, Prosthetics and Orthotics:**

- 1. Differentiate the major etiological factors leading to lower extremity amputation (i.e. Diabetes Mellitus, PVD, PAD, Trauma)
- 2. Identify levels and structures involved with TT and TF amputation.
- 3. Describe surgical procedures utilized in amputation (e.g. myodesis, beveling, etc.)
- 4. Describe phantom limb pain/sensation
- 5. Describe post-operative problems common to patient with amputation e.g. delayed healing, ulceration, and gangrene
- 6. List the common components of a TT and TF prosthesis and describe the function of the components
- 7. List the areas of weight-bearing and pressure relief for the TT and TF prosthesis
- 8. Identify appropriate assistive devices for gait training with and without prosthesis donned.
- 9. Discuss common skin problems for the person wearing a prosthesis or orthotics
- 10. List the general components and functions of orthotic devices
- 11. Identify the basic types of spinal orthoses
- 12. Describe potential detrimental effects of application of orthotic devices

# **Environment examination and modification**

- 1. Relate the importance of environmental accessibility in optimizing patient function
- 2. In a given scenario, identify common home, work place, and community environmental barriers that would impact function during daily activities and emergency situations.
- 3. In a given case scenario, identify and implement strategies to improve patient function through environmental modifications

# **Thoracic Inlet Syndrome (TOS):**

- 1. Describe the pathophysiology of Thoracic Outlet Syndrome
- 2. Describe the symptoms of TOS
- 3. Detail the physical examination and special tests needed to diagnose TOS
- 4. Discuss treatment options for TOS
- 5. Determine conservative therapeutic management of TOS
- 6. Describe to most common surgical approaches to TOS

#### **Reflex Sympathetic Dystrophy/CRPS:**

- 1. Describe the pathophysiology of RSD/CRPS
- 2. Describe the common symptoms of RSD/CRPS
- 3. List the stages of CRPS
- 4. Describe each stage of CRPS
- 5. Detail the physical examination and Diagnostic tests commonly used to diagnose RSD/CRPS
- 6. Discuss PT & OT treatment options for RSD/CRPS
- 7. Determine conservative therapeutic management of RSD/CRPS
- 8. Describe pharmacological therapeutics used to manage RSD/CRPS

#### Geriatric Posture, Scoliosis, Osteoporosis, Post-Polio Syndrome:

- 1. Recognize scoliosis of the spine
- 2. Differentiate between functional and structural scoliosis
- 3. Identify the symptoms of each type of scoliosis
- 4. Recognize the various physiological effects resulting from surgical and bracing interventions
- 5. Relay the importance of effective communication with patients and families in the management of osteoporosis
- 6. Identify the patient population at greatest risk of osteoporosis
- 7. Recognize the factors that increase the risk of osteoporosis
- 8. Discuss the etiology and clinical consequences of osteoporosis, low bone mass and related fractures
- 9. Describe the risks that osteoporosis patients face in terms of fractures and their sequelae

- 10. Explain the pathophysiology and risks of untreated osteoporosis
- 11. Determine the pathophysiology of geriatric postural faults
- 12. Develop proper treatment techniques for abnormal geriatric posture
- 13. Identify muscular weaknesses leading to abnormal geriatric posture
- 14. List precautions when prescribing postural exercise to the geriatric patient
- 15. Describe the pathophysiology of Post-Polio Syndrome
- 16. Name the 3 patterns of PPS
- 17. Describe the symptoms/clinical manifestations of PPS
- 18. Identify the medical management of PPS
- 19. Detail the physical examination and special tests needed to diagnose PPS
- 20. Discuss best PT treatment options for PPS
- 21. Determine conservative therapeutic management goals of PPS patients
- 22. Describe the Feldman's Strengthening Program commonly used as treatment with the PPS patient
- 23. Demonstrate the ability to document physical therapy interventions as they relate to patients with long-term pathologies

# **Vulnerable Populations – APS & CPS; Alzheimer's/Dementia:**

- 1. Compare Alzheimer's disease and Dementia
- 2. Recognize how Alzheimer's disease affects the brain
- 3. List the risk factors of Alzheimer's disease
- 4. Identify the 3 stages of Alzheimer's disease
- 5. Describe the symptoms of the early stage of Alzheimer's disease
- 6. List the care needs associated with the middle stage of Alzheimer's disease
- 7. Recognize behavioral changes that occur with Alzheimer's disease
- 8. Identify common triggers for behaviors associated with Dementia
- 9. List strategies to address common dementia related behaviors
- 10. Recognize current FDA- approved treatments that can address some the symptoms of Alzheimer's disease
- 11. Name the resources available through Alzheimer's Association
- 12. Explain the communication changes that take place throughout the course of Alzheimer's disease
- 13. Identify strategies to connect and communicate at each stage of Alzheimer's disease
- 14. Define Abuse, Neglect, and Exploitation related to the elderly and pediatric client
- 15. Recognize possible physical and behavioral indicators/signs of abuse in the elderly and pediatric client
- 17. Recognize possible physical and physical indicators/signs of neglect in the elderly and pediatric client
- 19. Recognize the signs of Financial Exploitation of the elderly and pediatric client
- 20. List examples of financial exploitation
- 21. Explain ways the elderly can protect themselves from financial exploitation
- 22. Report suspected abuse, neglect, and exploitation of children and elderly to appropriate authorities.
- 23. Identify client rights in an APS and CPS investigation

# The Aging Patient:

- 1. Describe the abnormal changes associated with aging in each body system where applicable.
- 2. Discuss the physical changes of aging and their impacts on older persons' quality of life
- 3. Relate common age-related changes in postural control mechanisms to fall risk in the elderly
- 4. Identify components contributing to impaired balance in the geriatric patient
- 5. Identify and describe typical examination findings used in the management of aging patients with balance disorders or who are at increased risk for falls
- 6. Relate the diagnosis and management of geriatric syndromes including: dementia; malnutrition; falls; pain; dizziness, etc
- 7. Describe the anatomical and physiological changes in the aging adult

#### **Coordination/Balance & Gait Analysis:**

- 1. Define and contrast balance and coordination
- 2. List static and dynamic balance and coordination tests and activities
- 3. Discuss several factors that contribute to balance dysfunction
- 4. Identify the relationship between balance disorders and fall risk
- 5. Specify the central and peripheral components of postural control mechanisms
- 6. Define proprioception and kinesthetic awareness
- 7. Compare and contrast the roles of the visual, vestibular, and somatosensory systems in postural control
- 8. Identify pathologies that can result in impaired balance
- 9. Describe how pathological processes can affect the normal gait cycle
- 10. Identify and discuss the importance of the components of the gait examination
- 11. Identify the joint positions and muscle actions of the lower extremity and trunk during normal gait
- 12. Describe and give examples of the common deviations found in gait
- 13. Using videotaped gait patterns, analyze normal and abnormal gait

# **Spinal Disorders, Surgical Interventions:**

- 1. Describe phases of spinal degeneration
- 2. Identify cervical spinal stenosis syndromes
- 3. Identify postures which decrease stenotic symptoms and those which aggravate
- 4. Differentiate structural faults with spondylolysis and spondylolisthesis
- 5. Define the McKenzie classification system for spinal disorders
- 6. Determine RED FLAGS of serious spinal pathology
- 7. Identify precautions and contraindications to mobilization and manipulation of the spine
- 8. Identify various types of sprains and strains of the spinal regions
- 9. Choose appropriate physical therapy management techniques to treat spondylolysis and spondylolisthesis
- 10. Identify common spinal fractures
- 11. Relate spinal fusion techniques and reasons for spinal fixation
- 12. Differentiate between spinal laminectomy and laminotomy
- 13. Explain precautions when treating a patient post spinal fusion

# Rehab Protocol for joint arthroscopies

- 1. Collect research, using credible and evidence-based resources, various protocols for the various joint arthroplasty
- 2. Develop an appropriate rehabilitation protocol per assigned joint arthroplasty
- 3. Specify PT treatment techniques commonly used for joint arthroplasty
- 4. List expected ROM, strength, precautions, overall functional status, and possible conjunctive modalities per week post-op
- 5. Using evidence-based resources, determine functional criteria required for progression to next week in protocol

# **Interprofessional Collaboration:**

- 1. Recognize the impact of teamwork on patient-centered practice.
- 2. Implement patient-centered care in a collaborative manner.
- 3. Communicate the roles and responsibilities of one's profession to other professionals.
- 4. Engage other health professionals, patient and family as appropriate to a specific patient care situation.
- 5. Review/discuss information in patient chart with other disciplines as necessary.

# **Service Learning:**

- 1. Identify student body/community needs and preferences in regard to wellness.
- 2. Recognize opportunity to educate student body and related community members according to needs about wellness and prevention.
- 3. Educate student body and related community members about wellness and prevention according to current relevant literature and EBP.
- 4. Examine the need for life-long commitment to community needs/career development/profession needs for promotion of community health. (Reflection paper)

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

- 1. Contribute to the discharge planning needs and follow-up care as outlined by the PT in the POC within the legal and ethical abilities of the PTA
- 2. Recognize when the directions to perform an intervention is beyond the scope of a PTA; and, report and discuss with the Physical Therapist
- 3. Adjust interventions within the POC established by the PT in response to the patient's signs and symptoms and report to supervising PT
- 4. Demonstrate appropriate verbal and non-verbal communication with the patient, caregivers, and physical therapist in an effective, appropriate, capable manner.
- 5. In a given scenario, determine patient safety, status, and progression while engaged in: gait, balance and locomotion activities.
- 6. Position patient appropriately for postural drainage of lobe affected and instruct patient in productive cough and appropriate breathing exercises per POC
- 7. Educate the patient in positions of relaxation for regaining breath control in patients experiencing shortness of breath
- 8. Demonstrate the ability to document physical therapy interventions as they relate to cardiac and pulmonary patients
- 9. In a given scenario, demonstrate and describe various principles of energy conservation to be taught to a patient with RA and/or OA
- 10. Demonstrate effective listening skills and empathy to improve patient adherence to PT intervention
- 11. Demonstrate sensitivity and responsiveness with patients who are not adhering to the treatment plan
- 12. Instruct patient in appropriate stretching and exercises for the specific type of scoliosis
- 13. Demonstrate the ability to document physical therapy interventions as they relate to scoliosis patients
- 14. Based on the POC, develop and implement a treatment plan for the patient with scoliosis in the context of the patient's life and environment
- 15. Based on the POC, develop and implement a treatment plan for the patient with osteoporosis in the context of the patient's life and environment
- 16. Utilize various tools for pain measurement (e.g. Visual Analogue Scale, body diagrams, pain questionnaires, etc.)
- 17. Based on the POC, implement a physical therapy intervention for the patient diagnosed with chronic pain
- 18. Demonstrate the ability to document physical therapy interventions as they relate to chronic pain patients
- 19. Develop and implement appropriate rehab activities for patients with various long-term pathologies and instruct patient in appropriate rehab exercises
- 20. Demonstrate the ability to document PT interventions as they relate to patients with balance and vestibular disorders
- 21. Measure balance and/or gait deficits by administering one of the following:
- 22. Berg Balance, Tinetti-Balance-Gait (POMA), Get-up-and-go test, Functional reach, or Rhomberg
- 23. Given a patient case scenario and plan of care, select and perform the appropriate PNF treatment techniques

- 24. Demonstrate the ability to document physical therapy interventions when utilizing PNF patterns
- 25. Demonstrate correct and appropriate residual limb wrapping techniques
- 26. Instruct the patient in the care of assistive, adaptive, orthotic, protective, supportive and prosthetic devices
- 27. Based on the POC, develop a post-operative strengthening/stretching treatment plan for the patient following amputation and instruct patient in appropriate exercises
- 28. Instruct the patient in the sequential components of gait training with prosthesis donned
- 29. Identify gait deviations of TT/TF amputees and if deviation is related to muscle weakness or the need for prosthetic adjustment.
- 30. Identify therapeutic interventions to correct gait deviation if due to muscle weakness.
- 31. Demonstrate the ability to document physical therapy interventions as they relate to patients with amputations.
- 32. Instruct patient in pre and postnatal exercises
- 33. Based on the POC, identify treatment considerations for the pregnant patient related to condition
- 34. Demonstrate the ability to document physical therapy interventions as they relate to pregnant patients
- 35. Demonstrate static and dynamic balance and coordination tests and activities
- 36. Communicate any change in patient status to the supervising PT

#### METHODS OF PRESENTATION

- 1. Lecture using PowerPoint presentations
- 2. Assigned Reading
- 3. Demonstrations/Role playing/Group activities
- 4. Multi Media
- 5. Laboratory Practice/Activities

#### Course Structure and Overview:

This is a hybrid class which means class meets for lab twice a week and lecture is primarily online through the learning management system Blackboard. Some assignments are posted online. Pay close attention to deadlines for all assignments. Technical difficulties are no excuse for late assignments! See course schedule for all reading assignments related to course material.

# MINIMUM TECHNOLOGY REQUIREMENTS

- Daily high speed internet access
- Microsoft Word
- Power point
- Portable storage device such as a Jump drive/Thumb drive

# REQUIRED COMPUTER LITERACY SKILLS

- Word Processing skills
- Email skills

#### COMMUNICATION

- EMAIL: Please check your NTCC email EVERYDAY. Email is the official form of communication used here at NTCC. All emailed questions to the instructor will be responded to within 24 hours, but usually within a few hours when possible. I will normally respond to you at least acknowledging that I received your inquiry and will answer as soon as possible.
- TEXT MESSAGE NOTIFICATIONS: You are required to sign up for the text message notifications via TEAMS. This will enable you to receive important class announcements and

reminders from me via text message so that you will not miss out on any assignment changes or important updates. Please continue to check your NTCC email daily. If you do not own a cell phone, you can receive these same reminders through your email... the instructions are also in the PDF instruction sheet you received at orientation.

• ANNOUNCEMENTS: These can be found in Blackboard under the course link on your Bb homepage. Please make sure you are reading any announcements thoroughly when they are posted there.

#### OUTLINE OF CONTENT

- 1. Cardiac and Pulmonary Conditions
- 2. Proprioceptive Neuromuscular Facilitation
- 3. Arthritis: OA & RA
- 4. TJR/Arthroplasty & Surgical Interventions
- 5. Gait analysis
- 6. Coordination & Balance
- 7. Spinal Disorders & Surgical Interventions
- 8. Scoliosis, Osteoporosis, Post-Polio Syndrome, Posture
- 9. Environmental Examination & Modification
- 10. Amputations & Prosthetics/Orthotics
- 11. Thoracic Outlet (Inlet) Syndrome & RSD/CRPS
- 12. Vulnerable Populations
- 13. Vascular & Lymphatic Disorders
- 14. Vestibular Disorders & Rehabilitation
- 15. Pregnancy/Gender healthcare

#### REQUIRED AND RECOMMENDED READING:

- 1. O'Sullivan, B. Susan: Physical Rehabilitation, Philadelphia, PA, 2019, F.A. Davis
- 2. Goodman, CG & O'Shea, RK: <u>Pathology For The Physical Therapist Assistant</u>, St. Louis, MO, 2012, Elsevier Saunders.
- 3. Martin, S & Kessler, M: <u>Neurologic Interventions For Physical Therapy 2<sup>nd</sup> Edition</u>, St. Louis, MO, 2007, Elsevier Saunders.
- 4. Manske, Robert: <u>Fundamental Orthopedic Management for the PTA</u> 5<sup>th</sup> Edition, St. Louis, MO, 2022, Elsevier Saunders.

# SCANS:

Scans addressed as follows: Resources (allocates time, allocates material & facility resources, allocates human resources); Information (acquires and evaluated information, organizes and maintains information, interprets and communicates information); Interpersonal (participates as a team member, teaches others, serves clients/customers, exercise leadership, negotiates to arrive at a decision, works with cultural diversity); Systems (understands systems); Basic Skills (reading, writing, arithmetic, listening, speaking); Thinking Skills (creative thinking, decision making, problem solving, knowing how to learn, reasoning); Personal Qualities (responsibility, self-esteem, sociability, self-management, integrity/honesty).

# **EVALUATION:**

Exams (6)	60%
Protocol/Assignments/check-offs	5%
Mid-Term Lab Practical	10%
Final Lab Practical Video Project	10%
Comprehensive Final Exam	15%

#### **GRADING SCALE**

A = 92-100

B = 83-91

C = 75-82

D = 66-74

F = 65 and below

Specific objectives are established for each of the PTHA courses. These may be found in the course syllabus provided to the student on Blackboard under the specific course number. The student should refer to the specific objectives frequently throughout the course of study.

The PTA program designates 75% as the minimum passing level of achievement. A student must have a 75% course exam average to be eligible to sit for the final exam. In addition, the student must have a 75% lab component average to be eligible to sit for the final exam. Any student receiving a final course average below 75% will not pass the course and subsequently dismissed from the program. If a student does not meet either the exam average or the lab component average of 75%, he/she will not be eligible to sit for the final exam and will fail the course. In addition, the student must pass the course final exam with a score of 70 or greater to progress in the program.

#### ATTENDANCE AND ABSENTEEISM

# TARDIES AND ABSENCES ARE STRONGLY DISCOURAGED

The PTA faculty believes that the habits and work patterns established in school will be carried over to the work setting. Therefore, every effort should be made to establish patterns of good attendance and promptness. This applies not only to the technical courses but also the general education and support courses. Student attendance is addressed under student responsibilities in the school catalog. In addition, student attendance and participation is also addressed utilizing the Professionalism Development Rubric. This document provides the student a means to identify and track any area(s) of deficiency regarding professional behaviors; and, to improve in the area(s). For the PTA Program, 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 (5) minutes late or leaving class early with or without instructor permission is considered tardy.
- 3. Three (3) tardies constitute one (1) absence.
- 4. After absences (excused or unexcused) in any 4 class periods per semester, the student will be placed on probation. Stipulations of probation will be developed based on the student's history and circumstances surrounding the absences; and conditions for dismissal in the event of a future absence will be included in the probationary contract.
- 5. Make-up work is required for all absences in order to ensure that the student acquires information and skills presented during his/her absence (see Make-up work section). It is the **student's responsibility** to meet with instructor(s) on the first day back to schedule make-up work and/or lab check-off.
- 6. Students must notify (voicemail or e-mail) the PTA office in **advance** whenever excessive (>5 minutes) tardiness or absence is unavoidable. **Notification of the student's absence by classmates is not acceptable!**

\*Note: An absence will be excused by provision of a note written and signed by a medical professional; and by uncontrollable or unavoidable extenuating circumstances as documented below. All other absences/tardies will be considered unexcused.

Further explanation of **excused absences** is as follows:

- "A student's serious illness" shall mean a condition such as pneumonia, surgery, hospital confinement, or valid documented medical reason. A physician's documentation verifying illness must be provided.
- "Death in the immediate family" shall be interpreted to mean mother, father, mother-in-law, father-in-law, spouse, child, brother, sister, grandparents, or significant other. Documentation must be provided.
- "Statutory government responsibilities" refer to such matters as jury duty or subpoena for court appearance. Documentation must be provided.
- Inclement weather see policy below.

# **INCLEMENT WEATHER/DESIGNATED HOLIDAYS**

Students scheduled for class during inclement weather conditions in which NTCC designates travel hazardous and closes the campus, will not be expected to attend class that day. However, in the event that NTCC remains open for classes, but the local school district in which the student resides closes and the student deems travel as hazardous, the student will not be expected to attend class that day. All class and lab work missed in this situation must be made up. If NTCC is open and the local school district in which the student resides remains open, the student must attend class that day. If the student does not attend class in the event that NTCC remains open, both the course instructor and program director must be notified in advance as with any other absence. The absence will be unexcused.

#### MAKE-UP WORK

#### **Due to Absence:**

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, information/ notes, handouts, lab work, covered during that absence. It is the **student's responsibility** to schedule a time with the instructor to complete lab check-offs for content missed. Lab check-offs must be made up within one week of the date absent. The student's grade will be lowered **10 points** on the corresponding lab practical for each lab session and check-off not made up within the allocated timeframe. If the student has not "checked-off", any missed lab material/techniques; they will **NOT** be allowed to take the corresponding lab practical and a grade of "0" will be assigned. If a test, lab practical, or special assignment is missed due to an **excused** absence, it is the student's responsibility to consult the instructor the next time the student is on campus about making up a test or turning in an assignment. The student must make-up the missed test or lab practical within one week from the date missed 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 is not acceptable! Assignments due on the date of the excused absence must be turned in the next time the student is on campus; otherwise, the student will receive a "0" for the work missed. An **unexcused** absence will result in a "0" on a test, lab practical, or special assignment missed; the student will not have the opportunity to make up the work missed work.

One make-up test and/or lab practical due to excused absence, per class, per semester is allowable without penalty. It is the student's responsibility to set up a time with the instructor to make up the test or lab practical missed.

#### **Remediation:**

In the event a student scores less than a 75 on a lab practical exam, the student **shall be assigned remediation** for the previously failed practical components (based on specified course lab practical

rubric). Failure to complete remediation satisfactorily (demonstration of proficiency) will result in failure of the course.

# Due to failure of safety criteria on lab practicals:

On lab practical exams several areas on each exam are considered to be patient safety criteria or "critical elements"; if a student **fails a patient safety element/criteria**, **he/she will be required to re-do the lab practical**. The re-do (2<sup>nd</sup>) lab practical cannot be taken on the same day as the failed lab practical. It is the **student's responsibility** to schedule a time with the instructor to re-do the practical and must be scheduled and completed during the instructor's office hours or other established time within the next week. The highest grade that a student can receive on the "re-do" is 75. If a student fails the safety criteria on the lab practical "re-do", the student is given a grade of "0" and automatically fails the course. Only one lab re-do per course, per semester, will be permitted for failure of safety criteria.

#### 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 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 laboratory skill, the student will be asked to present a return demonstration to the instructor at some point prior to the conclusion of the lab.

# **Alternate Operations During Campus Closure and/or Alternate Course Delivery Requirements:**

In the event of an emergency or announced campus closure due to a natural disaster or pandemic, it may be necessary for Northeast Texas Community College to move to altered operations. During this time, Northeast Texas Community College may opt to continue delivery of instruction through methods that include, but are not limited to, online through the Blackboard Learning Management System, online conferencing, email messaging, and/or an alternate schedule. It is the responsibility of the student to monitor NTCC's website (<a href="http://www.ntcc.edu/">http://www.ntcc.edu/</a>) for instructions about continuing courses remotely, Blackboard for each class for course-specific communication, and NTCC email for important general information.

Additionally, there may be instances where a course may not be able to be continued in the same delivery format as it originates (face-to-face, fully online, live remote, or hybrid). Should this be the case, every effort will be made to continue instruction in an alternative delivery format. Students will be informed of any changes of this nature through email messaging and/or the Blackboard course site.

# Statement Regarding the Use of Artificial Intelligence (AI) Technology:

Absent a clear statement from a course instructor, use of or consultation with generative AI shall be treated analogously to assistance from another person (collusion). Generative AI is a subset of AI that utilizes machine learning models to create new, original content, such as images, text, or music, based on patterns and structures learned from existing data (Cornell, Center for Teaching Innovation). Unauthorized use of generative AI tools to complete an assignment or exam is not permitted. Students should acknowledge the use of generative AI and default to disclosing such assistance when in doubt. Individual course instructors may set their own policies regulating the use of generative AI tools in their courses, including allowing or disallowing some or all uses of such tools. Students who are unsure of policies regarding generative AI tools are encouraged to ask their instructors for clarification. (Adapted from the Stanford University Office of Community Standards-- accessed August 31, 2023)

#### **SAFETY**

College faculty, staff, and students participating in clinical and laboratory experiences that require the handling of blood, blood products, or body fluids are required to observe standard precautions and safety guidelines prescribed by the U.S. Public Health Service.

To ensure safety of the student in lab and in clinical practicum, informed consent to participate will be appropriately documented upon entry to the PTA Program. All measures are taken to protect the health and welfare of students and faculty participating in laboratory and clinical practicum. To ensure safety during student interactions, students receive comprehensive information on indications, contraindications, precautions, physiological effects, potential risks, and the appropriate application of various modalities; and, techniques prior to laboratory practice or clinical practicum. Program faculty or staff members supervise all lab sessions. PTA students have the right to reasonable accommodations to allow full participation in laboratory and clinical practicum. Students also have the right to defer participation in select laboratory activities in the event that the student presents with a documented medical condition that would predispose them to negative effects (i.e. pregnancy, post-surgical, acute illness). Students have the right to terminate treatment applications received during laboratory sessions should they experience negative effects.

In the event of a minor accident, a small first aid box is located in the LAB room UHS 236. An incident/accident report is then completed by the student(s) involved and an investigation will be conducted by the program director or faculty member. The incident/accident report will be kept in the student's file. In the event of a serious accident, NTCC utilizes the 911 system. NTCC has an Emergency Preparedness Flip Manual which is located in the PTA Lab room 236. A copy of this flip manual is also located in the office of the Director of the PTA Program.

NTCC offers no health services and is not responsible for costs for hospitalizations, special health care such as consultations with specialists, nursing care, surgical operations or dental treatment. The next of kin on record may be notified in uncertain or emergency situations or serious illness. Students may be transported to a general hospital (by ambulance at their own expense) when such action is deemed necessary by college officials.

#### Safety of lab equipment

All laboratory equipment used for skill development must be used under the supervision and/or approval of faculty members. This equipment is inspected and calibrated annually. In the event a student finds a piece of equipment in need of repair or identifies damaged equipment, he/she must immediately inform the program faculty for removal. All relevant operating instructions and calibration reports may be found in the Equipment Notebook kept in the director's office.

# **General Lab Rules:**

- 1. All shoes, pens, and pencils must be removed when utilizing the plinths.
- 2. Do not use the plinths as a writing surface without a clipboard (the ink does not come off).
- 3. Food will be eaten at the desks only.
- 4. Please use trash containers to dispose of all drinks, food and related trash.
- 5. Food placed in the refrigerator must be labeled with your name and date. Food that is in the refrigerator for **more than one week** should be disposed of by anyone deeming the food "harmful" for consumption.
- 6. Clean out the microwave and surrounding area after each use.
- 7. The lab must be put back in its original condition after each lab.
  - All stools must be placed along each plinth or out of high traffic areas.
  - All equipment must be placed back in its original storage area after each lab session this

includes wheelchairs, BP cuffs, ADL equipment, ultrasound gel bottles, exercise equipment, etc.

• The storage areas/practice areas must be left neat

#### **General Safety Rules**

- 1. Learn and be familiar with the evacuation procedures and the location of fire extinguishers and emergency defibrillators.
- 2. Immediately report hazardous conditions, broken equipment, and defective tools to instructors, or the PTA program secretary.
- 3. Do not overload electrical circuits.
- 4. College property is no place for horseplay, fighting, teasing, and /or practical jokes; therefore, refrain from initiating or participating in any of the previously mentioned behaviors.
- 5. Do not use chairs, carts, tables, counters, boxes, rolling stools, or other substitutes for ladders or work platforms.
- Disconnect all electrical cords by grasping the plug and carefully disengaging; NEVER yank the cord. Report any equipment that is damaged or in immediate need of repair to program faculty or program secretary.
- 7. Wipe up all spills immediately, regardless of who caused the spill. If unable to completely clean up the spill or if the floor remains slick after cleaning, report the area to the secretary so that she may contact Plant Services for clean-up.
- 8. Use proper body mechanics at all times. Instruction in proper body mechanics will be introduced in the first semester and strongly encouraged to begin implementing these practices throughout.
- 9. The use of alcoholic beverages, narcotic drugs, or derivatives thereof on college property or at a college and program functions is strictly prohibited; therefore, do not partake!

# **Laboratory Policies**

A few lecture sessions and the majority of laboratory sessions will be held in the lab. In addition, open practice/lab time will be allowed at the discretion of the program faculty; the lab key can be obtained from program faculty or from the program secretary. Rules regarding unsupervised "open" lab times are as follows:

- 1. The student must sign-in and sign-out
- 2. No student is to work alone in the laboratory.
- 3. No use of electrical equipment, except through simulation, is allowed when a faculty member is not available.
- 4. No horseplay or rough-housing is allowed in the laboratory.
- 5. All equipment should be cleaned and returned to its proper place, the area cleaned after use, lights turned off, and the door locked by the last person to leave.
- 6. Safety guidelines are to be followed at all times.

# **Dress for Lab and class**

Students should be dressed appropriately for lab <u>prior to the beginning</u> of each lab session <u>unless</u> <u>specified differently</u>. Students not dressed properly for lab will receive a "0" for any lab work for that lab period. Students not dressed properly for lab practicals will not be permitted to take the lab practical test and will receive a "0" for that test. If appropriate attire is not available, a student may be asked to wear a patient gown for that lab period and will receive a "0" for that lab period. \*Remember, when not dressed properly for lab one deprives himself/herself and a partner of valuable learning opportunities.

- Option 1: NTCC PTA Program Polo, khaki pants and appropriate closed-toed shoes
- Option 2: NTCC PTA Program Scrubs and appropriate closed-toed shoes
- Option 3: NTCC PTA Program approved t-shirt and black athletic shorts and appropriate closed-toed

Instructors will determine appropriate options per class/lab period.

Additional clothing requirements:

WOMEN: Back-fastening halter-type tops are required for some labs. Tops must allow for the back to

be fully exposed. T-shirts will be worn over the clothes when practicing on a partner.

MEN: Tanks or bare torso are required for some labs.

HAIR& NAILS:

Nails must be short, clean and void of nail polish. Nails should be shorterthan the fingertips when observed from the palm side. Hair should be clean and out of the way with rubber bands or hair clips as necessary. **Personal hygiene is very important since many of the lab techniques require close contact**.

## Cleanliness in the PTA lab and classroom

Thank you in advance for your cooperation and participation in keeping our facilities neat and attractive. At the end of each semester, faculty and students will perform a thorough cleaning of the lab and equipment. In order to maintain a clean and orderly work environment for all students using the PTA lab, the following outline of student responsibilities is provided and should be followed by all.

It is essential that all students work together to maintain an optimal learning environment so that time is not wasted during lab classes. While the maintenance department handles the floors and the garbage, they do not clean specific equipment in a specialized labs; this will be the students' responsibility.

#### Linen

A limited amount of linen is available for use in the laboratory; and, conservative use is strongly encouraged. This linen includes sheets, towels, pillow cases, and patient gowns. NTCC does not have a laundry service or laundry facilities available therefore, it is the responsibility of the students in the program to maintain clean linen. Each student will have the responsibility of taking the linen home and washing it 1-2 times during each semester. If a student does not have laundry facilities, he/she may pay another student to take his/her place; however, the student is ultimately responsible for making sure the linen gets cleaned, folded, and restocked during his/her designated time. All first year students are responsible for doing the laundry created by the PTA program.

#### POLICY ON CIVILITY AND CELL PHONES IN THE CLASSROOM AND LABORATORY

Students are expected to assist in maintaining a classroom environment that is conducive to learning. Inappropriate or distractive classroom behavior is prohibited in order to assure that everyone has opportunity to gain from time spent in class. Inappropriate or distractive language is also prohibited. Should a disruptive classroom incident occur, the faculty member in charge may remove a student. The student has the right to appeal through appropriate channels.

Use of cell phones is **prohibited** in class/lab. Phones are **NOT** allowed and should be kept out of sight during class time. If the student is observed using the phone (texting, calling) during class he/she will be asked to turn the phone off and surrender it to the instructor. If the student desires to use the phone to access course materials, the student is asked to inform the instructor prior to class for approval. If a student's cell phone rings in class, the student will be required to turn off the phone immediately. If a student is expecting a very important call, he/she is to notify the instructor prior to class regarding the nature of the situation. The student will be asked to keep the phone silent, and upon receiving the call he/she must step out of the room to answer.

#### PROGRAM POLICY ON DISHONESTY

It is the responsibility of students and faculty to help maintain scholastic integrity at the College by refusing to participate in or tolerate scholastic dishonesty. **Plagiarism** and other **forms of dishonesty** undermine the very purpose of the college and diminish the value of an education. Specific sanctions for academic dishonesty are outlined in the Northeast Texas Community College Student Handbook and in this manual. Personal and professional ethics are inherent in the field of physical therapy therefore; the highest standards of honesty and integrity must be adhered to. This Honor Code, in its simplest form means that you will neither give nor receive any unauthorized assistance from any person, paper, or object on any examination, lab practical, paper, 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 or practical with a student who has not yet taken the test and/or practical (this includes the State Board exam).

With regards to research papers, in-services, group projects, etc. the use of another person's words or ideas must be cited and credit given to the source(s). Examples of plagiarism include:

- The inclusion of another person's exact words in a paper or assignment without placing quotation marks around the words to indicate an exact quote, *even if the source is cited*;
- Using <u>several</u> consecutive sentences written by another person, changing the words somewhat to keep the passage from being an exact quote, *even if the source is cited*;
- Presenting someone else's ideas without citing that person as the original thinker;
- Submitting a paper written in part or in whole by another person;
- Any other act intended to circumvent the process of performing and presenting original academic research in completion of a course assignment.

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 Health Science, 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.

# NTCC Academic Honesty/Ethics Statement:

NTCC upholds the highest standards of academic integrity. The college expects all students to engage in their academic pursuits in an honest manner that is beyond reproach using their intellect and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. This course will follow the NTCC Academic Honesty and Academic Ethics policies stated in the Student Handbook. Refer to the student handbook for more information on these subjects.

#### ADA STATEMENT:

It is the policy of NTCC 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 request accommodations. An appointment can be made with the Academic Advisor/Coordinator of Special Populations located in Student Services and can be reached at 903-434-8264. For more information and to obtain a copy of the Request for Accommodations, please refer to the NTCC website - Special Populations.

# FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT (FERPA):

The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children's educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered "eligible students." In essence, a parent has no legal right to obtain information concerning the child's college records without the written consent of the student. In compliance with FERPA, information classified as "directory information" may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student's name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.

# PTHA 2535 Rehabilitation Techniques Lecture & Lab Schedule 2025

Instructor: Nancy Wilson, PT, DPT Reading Legend:

Co-Instructor: Diamond Briones, PTA, BS

<u>Physical Rehabilitation</u> by O'Sullivan, et.al.

Office Hours: Posted Pathology for the PTA by Goodman, et.al.

Office Phone: (903) 434-8323 Fundamental Orthopedic Mgmt by Manske

Class Hours: T/TH lecture: 1:00-2:20 lab: 2:30-4:20 <u>Neurologic Interventions</u> by Martin/Kessler

DATE	LECTURE	READING
January 21	Cardiopulmonary Conditions & Interventions Lecture	O'Sullivan Ch. 13
	(Karvonen Method)	Manske pg. 117-118
January 23	Pulmonary Conditions Lectures - Parts 1 & 2	O'Sullivan Chs. 2 & 12
	(Vital signs review)	Manske pgs. 25-28
	(Borg Rating of Perceived Exertion)	Manske pg. 118,121
		Goodman Ch. 7
January 28	Labs for Postural Drainage & Airway Clearance	Postural Drainage Handout
Diamond	Breath sounds lab – In Sim Center	
Briones, PTA,		
BS	17 7 17 7 10 7 10 7 10 7 10 7 10 7 10 7	
	*Exam I available 1/29: covers 1/21, 1/23, 1/28; Due 1/31	
January 30	Arthritis: Osteoarthritis and Rheumatoid arthritis	O'Sullivan Ch. 23
Diamond	Audio Lecture (RA)	Goodman pgs. 563-569
Briones, PTA,	In class lecture (OA)	Manske 474-482
BS	and Lab	
February 4	Proprioceptive Neuromuscular Facilitation (PNF) -	Martin Ch. 10
	Audio Lecture (prior to labs)	Manske pgs. 73-74
	Upper Extremity & Lower Extremity Patterns Lab	

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February 6 Bryan Lick, PT	TJR/Arthoplasty & Surgical Interventions Lecture Protocol Assignments – Groups assigned	<ul> <li>Manske</li> <li>Shoulder pg. 415</li> <li>Knee pgs. 340-345</li> <li>Hip pgs. 363-365</li> </ul>	
	*Exam II available 2/7: covers 1/30, 2/4, 2/6; Due 2/13		
February 11	Vestibular Disorders & Rehabilitation	O'Sullivan Ch. 21	
February 13 Diamond Briones, PTA, BS	Vestibular Lab		
February 18	Vascular and Lymphatic Disorders (Audio)	O'Sullivan Ch. 14, pgs. 535-537	
	*Arthroplasty Protocols due!!!	Goodman pgs. 773	
February 20 Heather Brooks, PT	Gender Healthcare – Pelvic Floor & Men's health	Goodman Ch. E9 & E10 pg. 773.e125, 773.e247, 773.e247f, 773.e248b Pg. 318 Ch. 9, 340 Ch.10, 437 Ch. 12, 25-26 Ch. 2, 169 Ch. 7	
February 25	Pregnancy – Postural deviations and other changes		
	*Exam III available 2/26: covers 2/11, 2/13, 2/18, 2/20; Due 2/28		
February 27	Amputations – prosthetics and orthotics preview (audio) Prosthetics (audio) Orthotics (audio) Amputation Dressings (audio)	O'Sullivan Chs. 30 & 31	
March 4	Amputation lab – Residual limb wrapping and exercise/stretching review		
March 6	Environmental Examination and Modification (Discussion/instruction - Alzheimer's Modules)	O'Sullivan Ch. 9 pgs. 322-338; 341- 347	
	*Exam IV available 3/7: covers 2/27, 3/4, 3/6; Due 3/11		
March 11	Thoracic Outlet Syndrome Lecture (Audio) (*New terminology: Thoracic Inlet Syndrome)	Manske pgs. 392-393 Goodman pgs. 752	
	Reflex Sympathetic Dystrophy/CRPS (Audio)	Goodman pgs. 772-773 Manske pgs. 463-464	
March 13 Diamond Briones, PTA,	TOS and CRPS Lab		

BS		
<b>March 17-21</b>	Spring Break © Work of Alzheimer's Modules	
March 25	Scoliosis (Audio Lecture) Osteoporosis Audio Lecture Post-Polio Syndrome Audio Lecture	Manske pgs. 389-390 Manske pgs. 170, 485-486 Goodman pg. 535 Martin pgs. 551-554 Goodman pgs. 763-764 O'Sullivan pgs. 202-206
March 27 Diamond Briones, PTA, BS	Osteoporosis, Scoliosis, & Post-Polio Labs	
	*Exam V available 3/28: covers 3/11, 3/13, 3/25, 3/27; Due 4/3	
April 1	Mid-Term Practical	
April 3	Mid-Term Practical	
April 8	APS/CPS Alzheimer's Modules Due!!	
April 10	Gait Analysis: Normal & Abnormal Gait Lecture Balance and Coordination (Audio)	O'Sullivan Ch. 6 & 7 Manske Chs. 7 & 14
April 15	Gait analysis lab Balance tests	O'Sullivan Ch 6
April 17 Bryan Lick, PT	Spinal Disorders & Surgical Interventions & Lab	Manske Ch. 20
	*Exam VI available April 18: covers 4/10, 4/15, 4/17; Due 4/25	
April 22	Final Lab Practical Video Project – Independent Study	
April 24	Final Lab Practical Video Due by 3:00 p.m.	
May 6	COMPREHENSIVE FINAL EXAMINATION	

<sup>\*\*</sup>The instructor reserves the right to make modifications in content and schedule as necessary to provide the best education possible within prevailing conditions affecting this course.