



# **INSTRUCTIONAL PACKAGE**

PTH 244  
Rehabilitation

Effective Term  
Fall 2022/Spring 2023/Summer 2023

# INSTRUCTIONAL PACKAGE

## Part I: Course Information

Effective Term: Fall 2022

COURSE PREFIX: PTH 244

COURSE TITLE: Rehabilitation

CONTACT HOURS: 6 hours/week

CREDIT HOURS: 4

### **RATIONALE FOR THE COURSE:**

Upon completion of this course, the student should be able to describe the clinical signs, etiology, and pathophysiology of both central nervous system and peripheral nervous system conditions and congenital deformities. The student should be able to develop and implement treatment plans for patients who have impairments resulting from neurological injury.

### **COURSE DESCRIPTION:**

This course introduces neurological principles, pathology, and specialized rehabilitation techniques for pediatric and adult care.

### **PREREQUISITES/CO-REQUISITES:**

(Credit level [PTH 202](#) Minimum Grade of C or Credit level [PTH 202](#) Minimum Grade of TC) and (Credit level [PTH 234](#) Minimum Grade of C or Credit level [PTH 234](#) Minimum Grade of TC) and (Credit level [PTH 240](#) Minimum Grade of C or Credit level [PTH 240](#) Minimum Grade of TC) and (Credit level [PTH 270](#) Minimum Grade of C or Credit level [PTH 270](#) Minimum Grade of TC)

### **REQUIRED MATERIALS:**

- O'Sullivan, Susan B. *Physical Rehabilitation, 7<sup>th</sup> Edition*. F.A. Davis Company, 2019.
- Fairchild, Sheryl L. *Principles & Techniques of Patient Care*. Elsevier Saunders, 2018.
- Kisner C, Colby LA, Borstad J. *Therapeutic Exercise Foundations and Techniques 7th Ed*. Philadelphia, PA: F.A. Davis Company; 2018.
- Lescher, P. J. *Pathology for the Physical Therapist Assistant*. F.A. Davis Company, 2011.

Please visit the [BOOKSTORE](#) online site for most current textbook information.

Enter the semester, course prefix, number and section when prompted and you will be linked to the correct textbook.

### **ADDITIONAL REQUIREMENTS:**

Scrubs

### **TECHNICAL REQUIREMENTS:**

2022-2023

Access to Desire2Learn (D2L), HGTC's student portal for course materials. myHGTC and college email access.

### **CLASSROOM ETIQUETTE:**

As a matter of courtesy to other students and your professor, please turn off cell phones and other communication/entertainment devices before class begins. If you are monitoring for an emergency, please notify your professor prior to class and switch cell phone ringers to vibrate.

## **Part II: Student Learning Outcomes**

### **PROGRAM LEARNING OUTCOMES**

After successful completing the Horry-Georgetown Technical College Physical Therapist Assistant Program the graduate will be able to achieve the program learning outcomes. The student is advised to view the program learning outcomes in the student clinical handbook. Reviewing the outcomes will assist the student in understanding how the terminal course objectives achieve the program learning outcomes.

Use the direct link below to find the student clinical handbook.

[Handbook](#)

### **COURSE LEARNING OUTCOMES and ASSESSMENTS\*:**

After successful completion of this course, the student will be able to meet the following terminal behavior outcomes:

1. Identify the key elements of the physical therapist's evaluation to select, implement, and modify accordingly treatment interventions for the neurological impairments within the parameters of the physical therapist plan of care.
  - a. Assessments: Comprehensive Final Examination and Lab Practical Competency Examination
2. Recognize contraindications for and complications of physical therapy intervention and the appropriate response specific to the situation and diagnosis.
  - a. Assessments: Comprehensive Final Examination, and Lab Practical Competency Examination
3. Communicate adequately and appropriately, both verbally and nonverbally, in a manner that fosters confidence and reflects an understanding of socioeconomic, cultural, and psychological differences during Guest interactions in lab and data collection procedures on a mock neurologic patient scenario.
  - a. Assessments: Comprehensive Final Examination and Lab Practical Competency Examination
4. Demonstrate compliance within the scope of practice of a Physical Therapist Assistant in both legal and ethical dimensions.
  - a. Assessments: Comprehensive Final Examination and Lab Practical Competency Examination
5. Document accurately and concisely appropriate subjective, objective, and assessment

information in SOAP note format following treatment.

- a. Assessments: Comprehensive Final Examination and Lab Practical Competency Examination

## **STUDENT UNIT LEARNING OUTCOMES PER MODULE**

**Lecture & Lab Objectives:** After successful completion of the classroom activity, the student will be able to meet the following instructional objectives:

\*Modules can change per discretion of the instructor

### **Module #1: Neuroanatomy and Normal Development**

Lecture:

Materials Covered: Pathology for the Physical Therapist Assistant Chapter 7; Physical Rehabilitation Chapter 3 and Chapter 5

Assessment(s): Lecture Exam

1. Utilize the International Classification of Functioning, Disability, and Health (ICF) to understand and categorize patients with neurological pathology.
2. Discuss the factors involved when a Physical Therapist determines which tests, measures, and interventions are appropriate to be delegated to a Physical Therapist Assistant.
3. Identify significant structures within the nervous system and differentiate between the CNS and PNS.
4. Explain normal development milestones and age-related changes in functional movement across the life span.

Lab:

Materials Covered: Physical Rehabilitation Chapter 5; Therapeutic Exercise 215-223

Assessment(s): Lab Handout, skill check assessment

1. Apply PNF techniques and principles integrated with the developmental sequence and identify which proprioceptive neuromuscular facilitation techniques are most appropriate to promote the different stages of motor control following demonstration by the instructor or from a case scenario.
2. Accurately document the PNF intervention in a SOAP note.

### **Module #2: Motor Control and Motor Learning**

Lecture:

Materials Covered: Physical Rehabilitation Chapter 5 and Chapter 10

Assessment(s): Lecture Exam

1. Apply concepts of motor control and motor learning to implement interventions in patients with neurological pathology.
2. Identify the components of the motor function examination and factors that may affect the examination of motor function.
3. Distinguish the different types of tone and data assessment measures.
4. Contrast the role of reflexes in normal development and in a neurologically impaired patient.

Lab

Materials Covered: Physical Rehabilitation Chapter 10

Assessment(s): Final Lab Practical Competency Examination

1. Following instruction, safely guard a subject while eliciting protective reactions and equilibrium responses in sitting and standing.

2. Given a plan of care, design a treatment intervention that incorporates progression through the developmental sequence and identify the appropriate stage of motor control.
3. Correctly teach a serial motor task and progress the feedback utilized.
4. Explain and utilize technology as a therapeutic intervention for motor learning.

### **Module #3: Stroke**

#### Lecture:

Materials Covered: Physical Rehabilitation Chapter 15; You Tube video of Gabrielle Gifford

Assessment(s): ICF homework based on video; lecture exam

1. Describe the epidemiology, etiology, pathophysiology, and clinical manifestations of stroke.
2. Identify risk factors and teach stroke prevention in a mock clinical setting.
3. Identify common complications and associated conditions seen in patients who have sustained cerebrovascular accidents.
4. Differentiate between the three phases of stroke recovery and identify appropriate interventions for each phase.

#### Lab

Materials Covered: Physical Rehabilitation Chapter 15

Assessment(s): Lab handout

1. Interview a mock patient who has sustained a stroke and practice listening skills.
2. Perform techniques to facilitate trunk control with progression to functional activity following demonstration by an instructor.
3. Identify the typical phases of recovery for the upper extremity and demonstrate an appropriate treatment technique for each phase.
4. Implement a mat treatment program for bed mobility training and pre-gait training.
5. Design and practice in lab a progression of standing balance and gait training for a patient with hemiparesis.
6. Accurately document treatment intervention performed in lab in a SOAP note.

### **Module #4: Amyotrophic Lateral Sclerosis**

#### Lecture:

Materials Covered: Physical Rehabilitation Chapter 17

Assessment(s): Lecture exam

1. Describe the incidence, etiology, and pathophysiology of ALS.
2. Differentiate clinical manifestations related to upper motor neuron pathology, lower motor neuron pathology, and bulbar pathology.
3. Discuss the medical and health care management of persons with ALS.
4. Identify specific treatment interventions relative to the stage/degree of progression and level of impairment or functional limitations of persons with ALS
5. Discuss strategies for patient and family education to address functional limitations of individuals with ALS.

### **Module #5: Multiple Sclerosis**

#### Lecture

Materials Covered: Physical Rehabilitation Chapter 16

Assessment(s): Lecture exam

1. Describe the incidence, etiology, clinical manifestations, and course of multiple sclerosis.
2. Describe elements of the medical management of persons with multiple sclerosis.
3. Identify specific treatment interventions relative to the stage/degree of progression and level of impairment or functional limitations of persons with multiple sclerosis.
4. Recognize contraindications and complications associated with multiple sclerosis.

#### Lab

Materials covered: Physical Rehabilitation Chapter 16

Assessment(s): Lab handout

1. Interview a mock patient who has multiple sclerosis and recognize effective coping mechanisms either verbalized or perceived.
2. Recognize the impact of a chronic, progressive neurologic disease on a patient's lifestyle.
3. Discuss and teach strategies for patient and family education to address functional limitations of individuals with multiple sclerosis.
4. Practice coordination interventions for ataxia.
5. Interpret patient data given a case study and practice appropriate interventions to improve function.

### **Module #6: Parkinson's Disease (PD)**

#### Lecture:

Materials Covered: Physical Rehabilitation Chapter 18

Assessment(s): Lecture exam

1. Describe the incidence, etiology, clinical manifestations, and sequelae of Parkinson's disease.
2. Define terms associated with the pathology and management of Parkinson's disease.
3. Understand the typical medical management of Parkinson's disease.
4. Identify specific treatment interventions relative to the stage/degree of progression and level of impairment or functional limitations of persons with Parkinson's disease.

#### Lab

Materials Covered: Physical Rehabilitation Chapter 18

Assessment(s): Lab Handout

1. Observe clinical manifestations of PD and reflect on the impact they have on his lifestyle.
2. Explain the rationale and perform conditioning exercises relevant for PD.
3. Implement a plan of care that addresses rigidity, bradykinesia, and postural impairments.
4. Describe and practice specific cuing strategies related to various gait and functional movement impairments in PD.
5. Accurately document interventions performed in a SOAP note.

### **Module #7: Dementia and Alzheimer's Disease**

Lecture: Delle Crowe, SLP

Materials Covered: Pathology for the Physical Therapist Assistant Chapter 7 pages 308-310 and 315-316

Assessment: Lecture exam

1. Demonstrate understanding of characteristics associated with each stage of dementia.
2. Describe the need for interventions focused on utilization of residual skills as well as compensation of functional deficits.

3. Identify effective strategies for teaching family members how to assist a patient with impaired memory and declining cognition.

### **Module #8: Spinal Cord Injury (SCI)**

#### Lecture:

Materials Covered: Physical Rehabilitation Chapter 20

Assessment(s): Lecture Exam

1. Apply ICF terminology after observing videos of persons with spinal cord injuries and discuss the impact of the impairments and the role of the PTA.
2. Understand spinal cord injury classification: ASIA and Clinical Syndromes.
3. Describe the neurological complications and secondary medical complications associated with SCI.
4. Identify the expected functional outcomes for patients with traumatic spinal cord injury at various lesion levels.
5. Explain the role of physical therapy and identify appropriate interventions during the acute stage of recovery and active rehabilitation.
6. Appreciate the application of the tilt table intervention in the rehabilitation setting and identify signs and symptoms of intolerance with subsequent appropriate actions by the PTA.

#### Lab

Materials Covered: Physical Rehabilitation Chapter 20

Assessment(s): Lab handout

1. Correctly instruct and assist a "patient" in bed mobility, wheelchair transfers, and wheelchair skills as appropriate to their level of lesion.
2. Teach preventative skin care techniques.
3. Perform a range of motion program and understand how to implement selective tightening.
4. Instruct a mock patient in pulmonary exercises, strengthening exercises, and mat activities.

### **Module #9: Traumatic Brain Injury (TBI)**

#### Lecture:

Materials Covered: Physical Rehabilitation Chapter 19

Assessment: Lecture exam

1. Identify causes and mechanisms of traumatic brain injury.
2. Describe the evidence-based outcome measures frequently used with traumatic brain injury and understand the relevance of the scores to recovery.
3. Explain the sequelae of TBI including the common secondary and concomitant injuries associated with TBI.
4. Compare and contrast the role of physical therapy during the acute stage of recovery and the active stage of recovery using the Rancho Los Amigo LOCF as a tool for interventions.
5. Recognize the impact of a chronic, nonprogressive neurological disorder on a patient's family through observation and interaction.

#### Lab

Materials Covered: Physical Rehabilitation Chapter 19

Assessment: Skill check assessment; lab handout

1. Safely guard and guide a classmate simulating a neurological injury through developmental positions and explain the rationale for interventions in these positions.

## **Module 10: Epilepsy**

### Lecture

Materials Covered: Pathology for the Physical Therapist Assistant Chapter 7 pages 316-317

Assessment(s): Lecture exam

1. Distinguish epilepsy from other seizure disorders.
2. Identify pathologies associated with seizure disorders.
3. Recognize the signs of status epilepticus and the appropriate response.

## **Module #11: Neuropathy (PN, GBS, PPS)**

### Lecture

Materials Covered: Pathology for the Physical Therapist Assistant Chapter 7

Assessment: Lecture exam

1. Describe the incidence, etiology, and clinical manifestations of peripheral neuropathy (PN), Guillain Barre Syndrome (GBS), and Post-polio Syndrome (PPS).
2. Identify specific treatment interventions and contraindications relative to the stage or functional limitations of persons with peripheral neuropathy, GBS, and PPS.

### Lab:

Materials Covered: Pathology for the Physical Therapist Assistant Chapter 7

Assessment(s): Lab Handout

1. Assist in interviewing a mock patient with neuropathy and reflect the impact of the symptoms for the patient.
2. Given a neurological scenario, select and practice appropriate interventions.

## **Module #12: Amputation**

### Lecture:

Materials Covered: Physical Rehabilitation Chapter 22

Assessment: Lecture exam

1. Discuss the role of the PTA in the care of an individual following LE amputation.
2. Identify the comorbidities that affect the rehab process and outcome for a patient with a LE amputation.
3. Create a therapeutic program for a patient with a LE amputation that incorporates positioning, ROM, strengthening, and balance

### Lab

Materials Covered: Physical Rehabilitation Chapter 22

Assessment: Lab Handout

1. Identify and practice appropriate interventions for a mock patient with a transfemoral amputation in the following settings: acute, home, outpatient.
2. Identify and practice PNF techniques for a mock patient with a transtibial amputation.

## **Module #13: Pediatrics**

Lecture: Position and Handling, Christy Corbin, PT

Materials Covered: Guest lecture



Assessment: Lecture Exam, pediatric quiz

1. Describe the use of positioning and handling as interventions to improve function in children with neurologic deficits.
2. List handling tips that can be used when treating children with neurologic deficits.
3. Identify the purpose of adaptive equipment with children who have neurologic deficits.
4. Compare and contrast physical therapy interventions for various pediatric diagnoses including: cerebral palsy, myelomeningocele, Duchenne's Muscular Dystrophy, and Down Syndrome.

### **Module #14: Orthotics and Prosthetics**

Lecture: Alex Lyons, CPO

Materials Covered: Physical Rehabilitation Chapters 30 and 31

Assessment(s): Lecture exam

1. Define terminology relevant to orthotics and prosthetics and obtain a basic understanding of materials and design process.
2. Discuss orthotic options for supporting major joints in the body for various diagnoses such as foot pronation, compression fractures of the spine and scoliosis.
3. Develop an understanding of basic prosthetic componentry and how the selection of componentry relates to patient function and outcome.
4. Identify common gait deviations with transtibial and transfemoral prostheses.

Lab:

Materials Covered: Physical Rehabilitation Chapters 30 and 31

Assessment(s): Lab Handout

1. Assist in interviewing a Guest who has sustained an amputation and practice listening skills as well as gait and functional mobility observational skills.
2. Perform orthotic instruction and training for ankle foot orthotics, knee orthotics, and thoracolumbar sacral orthotics.

### **Module #15**

Collaboration with University of South Carolina DPT Program

Materials Covered: PTA Supervision Algorithm; ICF Worksheet

Assessment(s): ICF Worksheet; Student Reflection

1. Given three physical therapy evaluations, PTA students will collaborate with DPT students to discern appropriate referrals to PTA students, to discuss interventions that the PTA student would implement based upon the POC, and to determine what other information is necessary for the PTA to treat the patient.

### **Module #16: Vestibular Rehabilitation**

Lecture:

Materials Covered: Physical Rehabilitation Chapter 21

Assessment: Lecture Exam

1. Identify sensory systems vital to the maintenance of balance.
2. Define terms related to balance disorders.
3. Differentiate vestibular symptom pathology from other manifestations of vertigo, dizziness, and disequilibrium.
4. Discuss appropriate clinical examination tools used to measure each sensory input.

5. Distinguish appropriate therapeutic interventions for vestibular pathologies

***\*Students – please refer to the Instructor’s Course Information sheet for specific information on assessments and due dates.***

## Part III: Grading and Assessment

### EVALUATION OF REQUIRED COURSE MEASURES/ARTIFACTS\*:

Students’ performance will be assessed and the weight associated with the various measures/artifacts are listed below.

#### EVALUATION\*

Tests	50%
Assignments	8%
Skill Check Assessment	2%
Laboratory Practical Competency Examination	8%
Class Participation	2%
Final Exam	30%
	<hr/>
	100%

***\*Students, for the specific number and type of evaluations, please refer to the Instructor’s Course Information Sheet.***

#### GRADING SYSTEM:

A= 90%-100%

B= 80%-89%

C= 75%-79%

D= 69%-74%

F= below 68%

Grades earned in courses impact academic progression and financial aid status. Before withdrawing from a course, be sure to talk with your instructor and financial aid counselor about the implications of that course of action. Ds, Fs, Ws, WFs and Is also negatively impact academic progression and financial aid status.

The Add/Drop Period is the first 5 days of the semester for **full term** classes. Add/Drop periods are shorter for accelerated format courses. Please refer to the [academic calendar](#) for deadlines for add/drop. You must attend at least one meeting of all of your classes during that period. If you do not, you will be dropped from the course(s) and your Financial Aid will be reduced accordingly.

## Part IV: Attendance

Horry-Georgetown Technical College maintains a general attendance policy requiring students to be

present for a minimum of 80 percent (80%) of their classes in order to receive credit for any course. Due to the varied nature of courses taught at the college, some faculty may require up to 90 percent (90%) attendance. Pursuant to 34 Code of Federal Regulations 228.22 - Return to Title IV Funds, once a student has missed over 20% of the course or has missed two (2) consecutive weeks, the faculty is obligated to withdraw the student and a student may not be permitted to reenroll. **Instructors define absentee limits for their class at the beginning of each term; please refer to the Instructor Course Information Sheet.**

**For online and hybrid courses**, check your Instructor's Course Information Sheet for any required on-site meeting times. Please note, instructors may require tests to be taken at approved testing sites, and if you use a testing center other than those provided by HGTC, the center may charge a fee for its services.

## Part V: Student Resources



### THE STUDENT SUCCESS AND TUTORING CENTER (SSTC):

The SSTC offers to all students the following **free** resources:

1. **Academic tutors** for most subject areas, **Writing Center support**, and **college success skills**.
2. Online **tutoring** and academic support resources.
3. Professional and interpersonal communication **coaching** in the EPIC Labs.

Visit the [Student Success & Tutoring Center](#) website for more information. To schedule tutoring, contact the SSTC at [sstc@hgtc.edu](mailto:sstc@hgtc.edu) or self-schedule in the Penji iOS/Android app or at [www.penjiapp.com](http://www.penjiapp.com). Email [sstc@hgtc.edu](mailto:sstc@hgtc.edu) or call SSTC Conway, 349-7872; SSTC Grand Strand, 477-2113; and SSTC Georgetown, 520-1455, or go to the [Online Resource Center](#) to access on-demand resources.



### STUDENT INFORMATION CENTER: TECH Central

TECH Central offers to all students the following **free** resources:

1. **Getting around HGTC:** General information and guidance for enrollment, financial aid, registration, and payment plan support!
2. Use the [Online Resource Center \(ORC\)](#) including Office 365 support, password resets, and username information.
3. **In-person workshops, online tutorials and more services** are available in Desire2Learn, Student Portal, Degree Works, and Office 365.

4. **Chat with our staff on TECH Talk**, our live chat service. TECH Talk can be accessed on the student portal and on TECH Central's website, or by texting questions to (843) 375-8552.

Visit the [Tech Central](#) website for more information. Live Chat and Center locations are posted on the website. Or please call (843) 349 – TECH (8324), Option #1.

### **DISABILITY SERVICES:**

HGTC is committed to providing an accessible environment for students with disabilities. Inquiries may be directed to HGTC's [Accessibility and Disability Service webpage](#). The Accessibility and Disability staff will review documentation of the student's disability and, in a confidential setting with the student, develop an educational accommodation plan.

Note: It is the student's responsibility to self-identify as needing accommodations and to provide acceptable documentation. After a student has self-identified and submitted documentation of a disability, accommodations may be determined, accepted, and provided.

### **STATEMENT OF EQUAL OPPORTUNITY/NON-DISCRIMINATION STATEMENT:**

Horry-Georgetown Technical College prohibits discrimination and harassment, including sexual harassment and abuse, on the basis of race, color, sex, national or ethnic origin, age, religion, disability, marital or family status, veteran status, political ideas, sexual orientation, gender identity, or pregnancy, childbirth, or related medical conditions, including, but not limited to, lactation in educational programs and/or activities.

### **TITLE IX REQUIREMENTS:**

All students (as well as other persons) at Horry-Georgetown Technical College are protected by Title IX—regardless of their sex, sexual orientation, gender identity, part- or full-time status, disability, race, or national origin—in all aspects of educational programs and activities. Any student, or other member of the college community, who believes that he/she is or has been a victim of sexual harassment or sexual violence may file a report with the college's Chief Student Services Officer, campus law enforcement, or with the college's Title IX Coordinator, or designee.

\*Faculty and Staff are required to report incidents to the Title IX Coordinators when involving students. The only HGTC employees exempt from mandatory reporting are licensed mental health professionals (only as part of their job description such as counseling services).

### **INQUIRIES REGARDING THE NON-DISCRIMINATION/TITLE IX POLICIES:**

**Student and prospective student** inquiries concerning Section 504, Title II, and Title IX and their application to the College or any student decision may be directed to the Vice President for Student Affairs.

**Dr. Melissa Batten, VP Student Affairs**

*Title IX Coordinator*

Building 1100, Room 107A, Conway Campus

PO Box 261966, Conway, SC 29528-6066

843-349-5228

[Melissa.Batten@hgtc.edu](mailto:Melissa.Batten@hgtc.edu)

**Employee and applicant** inquiries concerning Section 504, Title II, and Title IX and their application to the College may be directed to the Vice President for Human Resources.

**Jacquelyne Snyder, VP Human Resources**

*EEO and Title IX Coordinator*

Building 200, Room 212A, Conway Campus

PO Box 261966, Conway, SC 29528-6066

843-349-5212

[Jacquelyne.Snyder@hgtc.edu](mailto:Jacquelyne.Snyder@hgtc.edu)