

PHT 6172: Neurorehabilitation II  
Spring Semester – 2014  
Department of Physical Therapy  
College of Public Health and Health Professions

**Class Schedule:** Tuesday and Thursday, 2:00 – 5:00 pm  
\*Post-polio support group lab, Tuesday, 8:30-3:00, February 21.

**Credits: 3**

**Instructors:**

Mary T. Thigpen PT, PhD (past)  
[mthigpen@php.ufl.edu](mailto:mthigpen@php.ufl.edu) 273-6511 Rm: 1155

Heather H Ross  
[hhrunc@php.ufl.edu](mailto:hhrunc@php.ufl.edu) 273-8965 BMS J398

Jay Nair PT  
[jay19oct@php.ufl.edu](mailto:jay19oct@php.ufl.edu)

**Office Hours:** We will usually be available immediately after class for quick questions or a short meeting. If more time is needed, please e-mail to set up an appointment time.

**Course Description:** The primary objective of this course is to prepare you to provide client-centered, holistic care to individuals with neurologic disorders. We will continue to build upon the principles introduced in Neurorehab I including current clinical models, neuroplasticity and its characteristics in the face of injury and recovery, evidence-based approaches, and clinical decision-making. The cornerstone of this course is a clinical problem-solving approach that will enable you as a physical therapist to effectively examine, evaluate, analyze, draw conclusions, and make decisions regarding prognosis and interventions with your clients. Specific neuropathologies will be explored including: movement disorders, multiple sclerosis, basal ganglia disorders, cerebellar disorders, and vestibular disorders. Particular importance is placed upon the promotion of quality of life as one faces neurologic injury, and the critical role that a physical therapist can play in providing prevention and intervention strategies that enable people to live well as they move throughout their lifespan. This course challenges you to draw from knowledge gained in previous courses while applying problem solving and critical thinking techniques to various clinical and simulated patient scenarios.

**Instructional Methods:** Real cases will be presented to provide the opportunity for you to develop effective clinical problem solving and decision-making skills when working with individuals with neurologic problems. Lectures, videos, interactive methods, presentations, group problem solving and discussion will all be used. Individuals with neurologic disorders will be invited into the classroom to allow you direct experience with the HOAC process.

**Recommended Resources:**

- *Neurological Rehabilitation*. Darcy A. Umphred. Fifth Edition. Mosby :Elsevier, 2006.
- *Motor Control-Translating Research into Clinical Practice*, Shumway-Cook and Woollacott, 3<sup>rd</sup> edition. Lippincott Williams & Wilkins, 2007.
- *Pathology: Implications for the Physical Therapist*, Goodman and Boissonault, W. B. Saunders 1998.
- *Neuroscience: Fundamentals for Rehab*, Lundy-Ekman, Elsevier, any edition.

**Website:**

**Please check the website daily.**

We will use Sakai found at <http://lss.at.ufl.edu/>. Lecture notes, assigned readings, announcements, grades, etc., will be located here.

**Grading Criteria:** *\*please note grade scale has been adjusted.*

Grade Scale	Grade	Grade Points
93 - 100	A	4.00
90 - 92	A-	3.67
87 - 89	B+	3.33
83 - 86	B	3.00
80 - 82	B-	2.67
70 - 79	C	2.00
60 - 69	D	1.00
<60	E	0.00

**Summary of Grading:**

2 Written Exams:	45% each
Homework & Exercise class	10 %

**Written Exams:** Exams will cover reading assignments, class lectures/discussions, student reports, and journal articles. Grading will follow the PT department grading scale above.

**Homework:** Out-of-class assignments are essential for you to explore and master the materials presented. The homework assignments will provide you the opportunity for self-reflection and development of empathy, continue to cultivate your ability to analyze the evidence and disseminate the evidence to the class, and advance your clinical decision-making skills and critical thinking abilities. **and most importantly:**

my goal, and the goal of this course, is to have you do well and enjoy learning. If you have any concerns or problems, please speak with me (the earlier in the course the better!) and we will come up with a way for you to make the most of this course.

**PHYSICAL THERAPY PROGRAM POLICIES FOR ALL COURSES**

**Attendance** is expected for all class sessions, labs, and examinations. The Physical Therapy Program at the University of Florida strongly believes that professional behavior patterns begin during the student's academic preparation. According to the PT Student Handbook, students are expected to notify the department by phone (273-6085) in the event of unexpected absence from a scheduled class session. Students are expected to inform the instructor of planned absences at least two days in advance.

**Punctuality** is important in both the clinic and classroom. Students are expected to arrive to class on time (i.e. prior to the instructor initiating class) and to return from breaks on time. The clock in the classroom will be considered the “official” clock. You are encouraged to notify your instructor(s) when appointments/ unavoidable commitments will cause arrival to class after start time, or require you to leave early. It is also the responsibility of the instructor to begin and end class at agreed upon times, and to notify you when changes of schedule may occur.

**Course Accommodations:**

If for any reason you feel you will have difficulty meeting the objectives and expectations of this course, please notify me within five (5) weekdays of the start of class so that accommodations may be implemented where indicated.

Individuals who require reasonable accommodations must contact the Dean of Students Office, 202 Peabody Hall, phone: 392-1261, as soon as possible. This office will provide necessary documentation. The student who is requesting accommodation must then provide this documentation to the instructor.

**Professional Behavior:**

Professional behavior is critical for a successful transition from the classroom to the clinical setting. The faculty recognizes the importance of this by incorporating the development and evaluation of professional behavior into each academic course. All students must attain developmentally appropriate levels of professionalism on the University of Florida's Professionalism Development Tool (PDT). Student performance on the PDT will be determined by behaviors in the classroom and lab. Additional feedback will be provided by peers, instructors, and teaching assistants.

***\*Unprofessional behavior can lead to a lower letter grade in this course, or dismissal from this course.***

**Academic Honest / Honor Code**

The University of Florida Honor code was voted on and passed by the Student body in the Fall 1995 semester.

**The Honor Code reads as follows:**

Preamble: In adopting this Honor Code, the students of the University of Florida recognize that Academic honesty and integrity are fundamental values of the University community. Students who enroll at the University commit to holding themselves and their peers to the high standard of honor required by the Honor Code. Any individual who becomes aware of a violation of the Honor Code is bound by honor to take corrective action. A student-run Honor Court and faculty support Are crucial to the success of the Honor Code. The quality of a University of Florida education is Dependent upon the community acceptance and enforcement of the Honor Code.

The Honor Code: We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied:

“On my honor, I have neither given nor received unauthorized aid in doing this assignment.”

In this professional program we are particularly sensitive to students submitting independent work and to using complete and accurate referencing in complying with the University of Florida Rules – 6Cl-4.017 Student Affairs: Academic Honesty Guidelines. Academic misconduct refers to dishonesty, knowingly furnishing false information to the University, plagiarism (e.g., presenting the ideas of someone else or the writing of someone else as one's own work), or cheating of any kind. All written assignments are to be completed independently by each student. \*Further details regarding UF's honesty policy are in your student handbook.

***\*Unethical behavior in this course will result in immediate dismissal from the course.***

## Terminal Behavior Objectives

**Upon successful completion of this course the student will meet the following objectives:**

1. Given an individual with a neurological disorder, the student will identify the priority signs, symptoms, and conditions that make the examination and intervention applicable and/or require referral to other appropriate medical personnel.
2. Given an individual with neurological disorder, the student will formulate a list of necessary test and measures to examine the signs and symptoms found in the individual with a neurological disorder.
3. Given the results of an examination of an individual with a neurological disorder, the student will synthesize the examination results identifying
  - a. Patient/client level of health status
  - b. Possible need for re-evaluation
  - c. Relevant psychosocial factors
  - d. Clinical judgment of patient/client condition consistent with available scientific evidence
4. Given the results of an evaluation of an individual with a neurological disorder, the student will
  - a. Diagnose the patient/client's pathology, level of impairment, functional limitation, and disability consistent with
    - i. age
    - ii. psychosocial factors
    - iii. medical information
  - b. Communicate the results of the diagnostic process to other practitioners.
5. Given the results of the evaluation and diagnostic process of an individual with a neurological disorder, the student will estimate the anticipated maximum level of improvement following intervention identifying
  - a. Effect of pre-existing and current health status, health behaviors, psychosocial factors, on the efficacy of interventions
  - b. Time frame for anticipated improvement based on functional potential for level of spinal cord injury..
6. Given the results of examination, evaluation, diagnosis and prognosis of an individual with a neurological disorder, the student will
  - a. Formulate realistic and acceptable therapeutic goals that are consistent with the needs and goals of the patient/client and other interested parties
  - b. consistent with motor learning principles
  - c. Consistent with criteria for specific intervention procedure
  - d. Documenting consistent with professional and setting guidelines.
7. Given a clinical case scenario, the student will, demonstrate clinical-decision making skills with support of critically evaluated published studies related to physical therapy treatment of individuals with the neurological disorders
8. Given a case scenario of an individual with a neurological disorder, the student will demonstrate communication skills appropriate for interactions with the patient, family members and all members of the healthcare team
  - a. Demonstrating consideration of applicable cultural and ethical issues.

## Instructional Objectives

***Upon successful completion of the course, the student will be able to:***

1. Describe and perform neurological screening and examination.

2. Discuss etiology, pathology, medical intervention and physical therapy assessment of individuals with cerebellar dysfunction.
  - 2.1 Describe pathology, prognostic course of Cerebellar disease
  - 2.2 Describe the physical signs and symptoms observed in individuals with Cerebellar dysfunction.
  - 2.3 Perform physical therapy evaluation/ assessment of the individual with Cerebellar dysfunction.
  - 2.4 List and explain special considerations for this patient population.
  
3. Discuss etiology, pathology, medical intervention and physical therapy assessment of individuals with Parkinson's disease and other BG disorders.
  - 3.1 Describe pathology, prognostic course of Parkinson's disease and other BG disorders.
  - 3.2 Describe the physical signs and symptoms observed in individuals with Parkinson's disease and other BG disorders.
  - 3.3 Discuss the role of neuropharmacology in the treatment of individuals with Parkinson's disease and other basal ganglia disorders.
  - 3.4 Discuss physical therapy evaluation/ assessment of the individual with Parkinson's or Parkinsonism disease.
  - 3.5 List and explain special considerations for this patient population.
  
4. Discuss etiology, pathology, medical intervention and physical therapy assessment of individuals with Multiple Sclerosis.
  - 4.1 Describe the pathology, prognosis and classification system of Multiple Sclerosis.
  - 4.2 Discuss the role of medications in the treatment of MS
  - 4.3 Discuss the role of physical therapy in the management of an individual with Multiple Sclerosis.
  - 4.4. Discuss energy conservation techniques.
  - 4.5 List and explain special considerations for this patient population.
  
5. Discuss pathology, medical intervention and physical therapy assessment of individuals post polio syndrome.
  - 7.1 Describe the etiology and pathology of both polio and post polio
  - 7.2 Describe the medical treatment of polio and post polio
  - 7.3 Discuss physical therapy assessment and treatment of individual with post polio syndrome.
  - 7.4 Discuss the role of support groups for individuals with post polio syndrome.
  - 7.5 List and explain special considerations for this patient population.
  
6. Discuss etiology, pathology, medical intervention and physical therapy assessment of individuals with vestibular dysfunction.
  - 9.1 Describe the pathology, prognosis of peripheral and central vestibular pathologies.
  - 9.2 Describe the symptoms of individuals with peripheral and central vestibular dysfunction.
  - 9.3 Discuss the medical management and assessment of individual with vestibular dysfunction.
  - 9.4 Discuss the role of physical therapy in the assessment and treatment of individuals with vestibular dysfunction.
  - 9.5 List and explain special considerations for this patient population.

7. Apply a problem- solving approach to evaluation of patients with neurological problems.
  - 10.1 Interpret results of evaluation findings
  - 10.2 Discuss the concept of localizing neurological problems
  - 10.3 Perform group discussion on case studies of individuals with neurological disorders.
  - 10.4 Demonstrate proper documentation of appropriate assessment, goal writing and treatment plans for individuals with neurological disorders.
  
8. Discuss psychosocial issues of the neurological client.
  - 11.1 .Discuss the use of support groups and organization for various neurological disorders.
  - 11.2 Discuss the importance of patient and family education
  - 11.3 Discuss adjustment to disability and life management skills.
  
9. Discuss pathology, medical intervention and physical therapy assessment of individuals with neuromuscular conditions, including Myasthenia Gravis, Guillain Barre, and ALS.
  - 13.1 Describe pathology, prognosis and differential diagnosis of each condition in adult and pediatric patients.
  - 13.2 Discuss the medical management of these conditions
  - 13.3 Discuss physical therapy assessment and treatments of the individual with these conditions.
  - 13.4 List and explain special considerations for each patient population.
  
10. Describe and apply principles of motor learning and motor control to neurologic patients with impairments, dysfunction, and decreased quality of life.

**Class Schedule  
Neuro Rehab II – Spring 2014**

Day	Date	Time	Activity	Lecture/Lab Topic	Readings	Lecturer
					<b><i>Always check WebCT for Additional Required Readings.</i></b>	
Tues	7-Jan	2-5	Lecture/Lab	Basal Ganglia Disorders: Motor Control Issues	Umphred – Chapter 24	M.Thigpen
Thurs	9-Jan	2-5	Lecture/Lab	DBI for Movement Disorders Main Points from Morris article	Umphred – Chapter 24 Shumway-Cook text	Pamela Zeilman ARNP M.Thigpen
Tues	14-Jan	2-5	Lecture/Lab	Parkinson's Disease: Etiology & Exam		M. Thigpen
Thurs	16-Jan	2-5	Lecture/Lab	Parkinson's Disease: Etiology & Exam	Umphred – Chapter 24	Meredith DeFranco DPT M. Thigpen
Tues	21-Jan	2-5	Lecture/Lab	Cerebellar Disorders: Etiology & Exam	Umphred – Chapter 26	M. Thigpen
Thurs	23- Jan	2-5	Lecture/Lab	Parkinson's Disease: Intervention	Umphred – Chapter 24	Meredith DeFranco DPT M. Thigpen
Tues	28-Jan	2-5	Lecture/Lab	Cerebellar Disorders Intervention	Umphred – Chapter 25	M. Thigpen
Thurs	30-Jan	2-5		Test 1		
Tues	4-Feb	2-5	Lecture/Lab	Vestibular Rehabilitation	Umphred – Chapter 25	M. Thigpen
Thurs	6-Feb	2-5	Lecture/Lab	Vestibular Rehabilitation	Umphred – Chapter 25	M. Thigpen
Tues	11-Feb	2-5:30	Lecture/Lab	Multiple Sclerosis: Overview & Special Considerations	Umphred – Chapter 22	Patty Bobryk PT, MHS
Thurs	13-Feb	2-5		Vestibular Rehabilitation-BPPV		M. Thigpen
**Tues	18-Feb	8:30-1:30 2:30-3:00	LAB 1104 G103	Eval & Tx of Post Polio Wrap-up	Umphred – Chapter 29	Post-polio Support Group
Thurs	20-Feb	2-5	Lecture/Lab	ALS/GBS	Umphred – Chapter 26	Jay Nair PT
Tues	25-Feb	2-5		Test 2		

- \*\* Tuesday lab will be split into 2 groups.
- Guest lecturerers may run over.
- Thursday PD Exercise Classes 5:15-6:15 at the MOVEMENT DISORDERS CLINIC (class participation 1X this semester)
- LAB: Tuesday, January 28<sup>th</sup> at the MOVEMENT DISORDERS CLINIC from 5:00-7:00