

College of Public Health and Health Professions

Department of Physical Therapy

Course Syllabus

PHT 6761C Neurorehabilitation I                      Fall 2013

Mondays 8:30 a.m. – 12:35 p.m., HPNP 1104-1109

Thursdays 3-5:00 p.m. (as indicated on the schedule)

HPNP 1104-1109 (Labs and Exams)

Instructor Information

Course Coordinator and Primary Instructor Stroke Unit

Dorian Rose, PhD, PT

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Office hours: by appointment

352-273-8307

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Course Instructor: SCI Unit

Emily Fox, PhD, PT, NCS

[ejfox@php.ufl.edu](mailto:ejfox@php.ufl.edu)

Course Instructor: TBI Unit

Gloria Miller, PhD, PT

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Faculty and adjunct faculty assisting with this course:

Rachelle Studer, DPT, NCS; UF Health Shands Rehabilitation Hospital

Mike Chiarelli, PT; UF Health Shands Rehabilitation Hospital

Jen Fogel, DPT ; UF Health Shands Rehabilitation Hospital

Jennifer Howarth, DPT ; Neurologic Resident @ UF Health Shands Rehabilitation Hospital

Kristen Keller, DPT ; Neurologic Resident @ UF Health Shands Rehabilitation Hospital

Teaching Assistants:

1. Sharareh Sharififar, PT

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2. TBA, PT

Course Overview/Purpose

Active engagement in the learning process is a foundation to success in Neurorehabilitation I. In this course, we will apply fundamentals in physical therapy including but not limited to neuroscience, anatomy, patient evaluation, motor learning/control, cardiopulmonary, exercise training, and patient monitoring as a foundation to evaluation and treatment for persons with movement disorders secondary to neurologic injury or disease. You will acquire key information concerning neurologic diseases and disorders that are common to clients evaluated and treated by physical therapists. Medical information will include disease description, etiology, pathology, clinical signs and symptoms, diagnostic procedures, medical management, and precautions or special considerations pertinent to physical therapists. From a physical therapy perspective, specific standardized assessments, evaluation and treatment strategies, and rehabilitation practices will be addressed pertinent to the movement problems associated with a neurologic injury/disease while identifying and using appropriate guidelines in clinical decision-making.

The role of the physical therapist will be introduced across treatment environments and across the time course or progression of the disease (acute through chronic). Medical and psychosocial aspects of living with a disability will be discussed. The role of the physical therapist and other health professionals in the rehabilitation team will be presented including the neurologist, physiatrist, speech pathologist, nurse, occupational therapist, neuropsychologist, and orthotist. Evidence-based practice and the ICF model of health and disability will be applied as models for assessment and treatment for persons with neurologic disorders resulting in movement dysfunction.

## Methods of Teaching

Course materials will be presented in lecture, laboratory, class discussions and electronic formats.

## Expectations:

As the next generation of physical therapists, the overall aim of this course is to prepare you for entry-level practice in adult neurorehabilitation. Expect to develop an understanding of knowledge and skills that can be applied to clinical decision-making; expect to be able to access resources currently and in the future relative to guidelines and evidence to guide your practice, and lastly expect to exercise good critical thinking to assess your patients, progress and challenge patients toward their goals. *This course is an introductory level course. You will have the opportunity to apply this information, clinical decision-making, and your skills in greater depth with patients in the rehab setting in Motor Control and Learning next Summer.* In Motor Control and Learning, much of this course becomes integrated into patient evaluation, treatment planning, and delivery. We are preparing you to continue the learning process on your affiliations. Neurorehab II will accompany this course in the Spring and add aspects relative to degenerative diseases and vestibular rehabilitation.

As a student of excellence, each student is expected to make a meaningful contribution to the class learning experience through your uniquely individual experience, perspective and thinking; synthesis of readings; preparation for class; participation in labs, discussions, and guest instructor labs.

Attendance for class and labs is required.

Course Objectives: These objectives and the daily objectives should guide your preparation for this class, internships, licensure exam, and ultimately, clinical practice. Upon successful completion of PHT 6761C, students should be able to:

1. Know the individual and the potential implications of personal factors for therapy goal setting and clinical decision-making.
2. Describe the disease/injury pathology and course of the disease, as well as the medical, surgical, and/or pharmacological management including medical precautions.
3. Using the ICF model to describe the expected consequences of the disease/pathology on function, activities, and participation and identify the contextual factors: environmental and personal.
4. Describe a comprehensive PT evaluation using standardized assessments at appropriate timepoints and environments establishing baseline patient abilities/performance, for goal-setting, re-evaluation, and outcomes assessment applying the ICF model, practice pattern of *PT Guide to Clinical Practice*, and clinical practice guidelines.
5. Identify problems for referral to MD, other health professionals, or resources.

6. Set appropriate therapeutic goals specific to the goals of the individual, the disease/injury and its progression or recovery (and secondary or other problems) across the continuum of care: acute care, in-patient rehab, outpatient, home health, wellness and fitness using clinical practice guidelines, evidence, and best clinical judgment.
7. Identify PT treatments specific to this population and according to the best evidence-to-date (*categorize the Rxs: compensation to recovery-based interventions, prevention, and comfort*).
8. Identify how to progress the patient towards achieving set goals.
9. Monitor patient response to therapy/exercise and adjust Rx accordingly.
10. Identify and recommend appropriate equipment, devices, and orthotics.
11. Recognize the psychosocial aspects of disability in treatment planning and relative to the individual's role in his/her family and society.
12. Identify and understand the various roles of the PT through the course of the disease/injury and the individual's life including patient and family education, Rx of the caregiver(s), and referral source.
13. Understand and view the patient as a student or learner and the role of the interaction with a PT as
  - a. informing and sharing a vision of what is possible for a patient/learner,
  - b. an agent for change,
  - c. an instructor/coach for the individual,
  - d. an educator for the individual, family, and caregivers, and
  - e. empowering individuals.

Course prerequisites: Successful completion of the UF entry-level DPT program up through Summer 2013.

Credit hours: 3 credits

### Course Materials

#### Required:

- UF DPT Neuroscience course syllabus and notes
- Clinical practice guidelines will be accessible on the internet and identified during the course.
- Shumway-Cook & Woolacott. Motor Control: Translating Research into Clinical Practice. 4<sup>th</sup> edition. LWW. 2011.
- Lundy-Eckman. Neuroscience: Fundamentals for Rehabilitation. 4<sup>th</sup> edition, Elsevier.2013.
- International Standards for Neurological Classification of Spinal Cord Injury. American Spinal Injury Association. 2<sup>nd</sup> edition. 2011.
- We will use the Sakai at UF (<http://lss.at.ufl.edu/>) for web-based assignments, readings, etc. Please check the website for the next week's readings and assignments. Homework feedback will be provided directly on your hard copy or on the web.

#### Suggested Texts/Resources:

- Somers MF (2009). *Spinal Cord Injury: Functional Rehabilitation*. Norwalk, CN: Appleton & Lange.

- Umphred (2013). Neurological Rehabilitation. 6<sup>th</sup> edition. Elsevier.
- O'Sullivan (2007). Physical Rehabilitation. 5<sup>th</sup> edition. F.A. Davis.
- Sisto, Sue Ann, Druin E, Sliwinski MM (2008). Spinal Cord Injuries: Management and Rehabilitation. St. Louis, Missouri: Mosby Inc., Elsevier.
- *Guide to Physical Therapist Practice*, Second Edition, American Physical Therapy Association, *Phys Ther*: 2001: 81: 9-746.

Course Requirements/Evaluation/Grading

- Homework Assignments provided during the semester should be completed in a timely and legible format. Please refer to <http://lss.at.ufl.edu/> for posting of on-going assignments and due dates including the format for satisfactory completion of each assignment. Complete assignments fully and submit responses consistent with the pursuit of excellence as an emerging professional in Physical Therapy and worthy of the title Doctor of PT.
- Exams and Practical are scheduled – see dates in course schedule.

Assignments: Refer to each unit: SCI, Stroke, TBI.

GRADES:

The percentages below indicate the amount of the course dedicated to each topic area (SCI, Stroke, and BI).

○ Exam # 1 Introduction and Stroke Unit	25%
▪ Assignments: Stroke Unit	25%
▪ Practical Exam (pass/fail)	
○ Exam # 2 SCI Unit	15%
▪ Assignments: SCI Unit	15%
▪ Practical Exam (pass/fail)	
○ Exam # 3 TBI Unit	10%
▪ Assignments: TBI Unit	10%

TOTAL 100%

## Grading Scale:

**A (4.00 grade point) = 93-100**

**A- (3.67 grade point) = 90-92**

**B+ (3.33 grade point) = 87-89**

**B (3.00 grade point) = 83-86**

**B- (2.67 grade point) = 80-82**

**C (2.00 grade point) = 70-79**

**D (1.00 grade point) = 60-69**

**E (0 grade point) = < 60**

### Statement of University's Honesty Policy:

Students are expected to act in accordance with the University of Florida policy on academic integrity (See Student Conduct Code: the Graduate Student Handbook or this website for details: [www.dso.ufl.edu/judicial/procedures/academicguide.php](http://www.dso.ufl.edu/judicial/procedures/academicguide.php))

All students are required to abide by the Academic Honesty Guidelines. The following pledge has been accepted by the University and is accepted of all students:

- "I understand that the University of Florida expects its students to be honest in all of their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action, up to and including expulsion from the University."

Cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior:

Honor Code Oath:

- "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standard of honesty and integrity."

Class attendance is expected for all classes, labs, exams, training sessions, and practicals.

### Make-up Exams or Otherwise:

Please follow departmental policies as published in the Student Handbook relative to absences.

### Professional Behavior

- Students are expected to behave and engage in the educational process and experience in a professional manner. Please refer to the DPT Student Handbook for guidance in this area concerning attendance and punctuality. Mutual respect for classmates, students, faculty, guest speakers, guest instructors, and Teaching Assistants is expected and required. Students who are disruptive or disrespectful to their classmates' learning experience will be asked to leave the classroom.
- Cell phones should not be used during class unless permission has been granted by an instructor. If a cell phone rings during lecture, the cell phone may be taken away until the end of class (at the instructor's discretion). Lap tops may be used during lecture to take notes, but any other activity will result in the lap top being taken away until the end of the class, and more than one violation will result in lap top use being prohibited during class.
- Students are expected to read materials in preparation for class participation.
- Students are expected to dress appropriately for class or lab. Note the schedule for delineation for lab attire by an "P" or "L" next to the Week/class. P= Professional and L = lab attire.

Test Scores: Every effort will be made to return exams/assignments in a timely manner. Students receiving a grade of "C" (less than 80) are required to make arrangements to meet with the instructor within one week of receiving the grade. The exams will be reviewed in class. Students should refer first to their notes, then the text and other references, to classmates, and to TAs to review questions and answers and understand the material.

### Accommodations for Students with Disabilities:

If you require classroom accommodation because of a disability, you must first register with the Dean of Students Office (<http://oss.ufl.edu>). The Dean of Students will provide documentation to you, which you then give to the instructor when requesting accommodation. The College is permitted to provide reasonable accommodations to assist students in their coursework.

### Counseling

- Students may occasionally have personal issues that arise in the course of pursuing higher education or that may interfere with their academic performance. If you find yourself facing problems affecting your coursework, you are encouraged to talk with an instructor and to seek confidential assistance at the UF Counseling Center, 352-392-1575, or Student Mental Health Services, 352-392-1171. Visit their web sites for more information: <http://www.counsel.ufl.edu/> or <http://www.health.ufl.edu/shcc/smhs/index.htm#urgent> .

Crisis intervention is always available 24/7 from: Alachua County Crisis Center:

352-264-6789. Please don't wait for a crisis to come in and talk faculty or a counselor. Graduate school and other events can be stressful at time, we are glad to provide any assistance.



**Assignments**



**Fall 2013  
Neurological Rehabilitation I  
PHT 6716C Course Schedule – Sections 3860 and 3869**  
<sup>L</sup> Lab attire                      <sup>P</sup> Professional Attire

<b>Priming Assignment</b>	<b>Assignment and Due Date</b>	<b>Week/Date/Time</b>	<b>Topics</b>	<b>Instructor(s)</b>
		<b>Week 1</b> <b>Mon. Aug. 26<sup>L</sup></b> 8:30 – 9:45 a.m. 10:00 – 11:15 a.m.  11:30 – 12:35 p.m.  <b>Thurs. Aug. 29<sup>P</sup></b> 3:00 – 5:00 p.m.	Neuroplasticity as a Foundation for Rehabilitation  Course Overview and Objectives  Comprehensive Stroke Program	G. Miller, PhD, PT D. Rose, PhD, PT E. Fox, PhD, PT  D. Rose, PhD, PT  D. Rose, PhD, PT
		<b>Week 2</b> <b>Mon. Sept 2<sup>P</sup></b>  <b>Thurs. Sept 5<sup>P</sup></b> 3 – 5:00 p.m.	<b>LABOR DAY HOLIDAY: No Class</b>  Predicting Stroke Recovery	D. Rose, PhD, PT

		<b>Week 3</b> <b>Mon. Sept 9</b> 8:30 a.m. – 12:35 p.m.  <b>Thurs, Sept. 12<sup>P</sup></b> 3:00 –5:00 p.m.	Managing Stroke in Acute Care  Neurologist's Perspective on Stroke  Stroke Assessments	D. Rose, PhD, PT  Steve Nadeau, M.D.  D. Rose, PhD, PT

<i>Priming Assignment</i>	<i>Assignment and Due Date</i>	<i>Week/Date/Time</i>	<i>Topics</i>	<i>Instructor(s)</i>
		<b>Week 4</b> <b>Mon, Sept 16<sup>L</sup></b> 8:30 a.m. – 12:35 p.m.  11:30 – 12:35  <b>Thurs, Sept 19<sup>L</sup></b> 3:00 - 5:00 p.m.	Gait Recovery and Rehabilitation  Pusher Syndrome  UE Recovery and Rehabilitation	D. Rose, PhD, PT  D. Rose, PhD, PT  D. Rose, PhD, PT
		<b>Week 5</b> <b>Mon, Sept 23<sup>L</sup></b> 8:30 – 10:00 a.m.  10:35- 12:35 p.m.	CV Guidelines and Wellness Post-Stroke  ½ class with community stroke survivors ½ class: EBP assignment	D. Rose, PhD, PT  D. Rose & Team G. Miller, PhD, PT

		<b>Thurs, Sept 26<sup>P</sup></b> 3 - 5:00 p.m.	½ class with community stroke survivors ½ class: EBP assignment	D. Rose & Team G. Miller, PhD, PT
<b>Priming Assignment</b>	<b>Assignment and Due Date</b>	<b>Week/Date/Time</b>	<b>Topics</b>	<b>Instructor(s)</b>
		<b>Week 6</b> <b>Mon, Sept 30<sup>P</sup></b> 8:30 – 9:45 a.m.  9:55 – 10:30 a.m.  10:45 – 12:35 p.m.  <b>Thurs, Oct. 3</b> 3:00 – 6:00 p.m.	Review of lessons learned from community stroke survivors  Stroke Unit Wrap-up  Neuroplasticity, compensation, recovery, and introduction to SCI  <b>Stroke Exam and Practical</b>	D. Rose, PhD, PT  D. Rose, PhD, PT  E. Fox, PhD, PT   D. Rose, PhD, PT & Team
		<b>Week 7</b> <b>Mon., Oct. 7<sup>L</sup></b> 8:30 – 9:30 a.m.  9:30-11:30 am  11:30 - 12:35 p.m.  <b>T</b> <b>hurs, Oct. 10<sup>P</sup></b> 3:00 – 4:10 p.m.  4:15 – 5:00 p.m.	Medical aspects of SCI  ASIA Examination and AIS Classification  Connecting neuroanatomy & SCI neurologic examination  Acute care post SCI and SCI outcomes Pressure relief, secondary complications and SCI injury levels	Dr. Cox  E. Fox, PhD, PT    Sarah Suter, PT E. Fox, PhD, PT
<b>Priming Assignment</b>	<b>Assignment and Due Date</b>	<b>Week/Date/Time</b>	<b>Topics</b>	<b>Instructor(s)</b>
		<b>Week 8</b> <b>Mon., Oct. 14<sup>L</sup></b>		

		8:30 – 9:30 a.m. 9:45-12:35 p.m.	Incomplete SCI Walking function and recovery post SCI	E. Fox, PhD, PT E. Fox, PhD, PT
		<b>Thurs., Oct. 17</b> 3:00 – 5:00 pm	<b>No class (Note: Basic Skills is using classroom for exam)</b>	
		<b>Week 9</b> <b>Mon., Oct. 21<sup>L</sup></b> 8:30 - 12:35 p.m.	Functional goals and progression 1) Bed mobility 2) W/C mobility 3) Transfers	E. Fox, PhD, PT
		<b>Thurs., Oct. 24<sup>P</sup></b> 3:00 – 5:00 pm	Wheelchair and equipment recommendations	E. Fox, PhD, PT
		<b>Week 10</b> <b>Mon., Oct. 28<sup>P</sup></b> 8:30 – 9:45 a.m.	SCI Review	E. Fox, PhD, PT
		10:00 a.m. – 12:30 p.m.	Introduction to BI Neurosurgery/ Medical Aspects	G. Miller, PhD, PT Dr. Sporrer
		<b>Thurs., Oct. 31<sup>P</sup></b> 3:00 – 5:30 p.m.	Acute Care considerations Intro to BI Rehab and Disorders of Consciousness Ranchos Level I-IV SCI Exam & Practical Exam	J. Fogel, DPT E. Fox, PhD, PT and team

		<p><b><u>Week 11</u></b>  <b>Mon., Nov. 4<sup>P</sup></b>  8:30 – 9:30 a.m.</p> <p>9:45 – 11:00 a.m.</p> <p>11:20 – 12:35 p.m.</p>	<p>Ranchos Level of Cognitive Functioning V-XII</p> <p>Mild TBI/  Combat Related TBI</p> <p>Concussion</p>	<p>G. Miller, PhD, PT</p> <p>G. Miller, PhD, PT</p> <p>J. Fogel, DPT</p>
		<p><b>Thurs., Nov. 7</b>  3:00-5:00 p.m.</p>	<p>BI Labs  Acute/Positioning</p>	<p>G. Miller, PhD, PT  J. Fogel, DPT</p>
<b><i>Priming Assignment</i></b>	<b><i>Assignment and Due Date</i></b>	<b><i>Week/Date/Time</i></b>	<b><i>Topics</i></b>	<b><i>Instructor(s)</i></b>
		<p><b><u>Week 12</u></b>  <b>Mon., Nov. 11<sup>P</sup></b></p>	<p><b><i>VETERAN'S DAY HOLIDAY: No Class</i></b></p>	
		<p><b>Thurs., Nov. 14</b></p>	<p>Exam/Eval of BI  Outcomes Assessment</p>	<p>G. Miller, PhD, PT  J. Fogel, DPT</p>
		<p><b><u>Week 13</u></b>  <b>Mon., Nov. 18<sup>P</sup></b>  8:30 – 12:35 p.m.</p>	<p>Behavior Management of the pt post BI</p> <p>Introduction to serial casting</p>	<p>G. Miller, PhD, PT</p> <p>J. Fogel, DPT</p>
		<p><b>Thurs., Nov. 21<sup>L</sup></b>  3:00-5:00 p.m.</p>	<p><b><i>Serial casting</i></b></p>	<p>G. Miller, PhD, PT  J. Fogel, DPT</p>

<i>Priming Assignment</i>	<i>Assignment and Due Date</i>	<i>Week/Date/Time</i>	<i>Topics</i>	<i>Instructor(s)</i>
				M. Molyneux, OTR
		<b>Week 14</b> <b>Mon., Nov. 25<sup>P</sup></b> 8:30 – 10:00 a.m.	<b>TBI Exam</b>	G. Miller, PhD, PT
		<b>Week 15</b> <b>Mon., Dec. 2<sup>P</sup></b> 9:00 – 12:00 p.m.	Comprehensive NeuroExam	Neurorehab I team
		12:00 - 12:35 p.m.	Looking back and looking ahead Course Evaluations	D. Rose, PhD, PT

Note: **SCI Unit** begins 9/30/13 and ends 10/31/13 (exam date).

**Traumatic Brain Injury Unit** begins 10/28/13 and ends 11/25/13 (exam date).

Please note that occasionally schedule changes must occur based on availability of our guest instructors, rooms, and personnel. Please work with us when this happens to optimize the learning experience and convenience for everyone. Thanks so much.

