Zuckerberg College of Health Sciences  
Department of Physical Therapy

<table>
<thead>
<tr>
<th>Course Number</th>
<th>DPTH.6220 sections; 801, 802, 803</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Title</td>
<td>Neurological Physical Therapy II Lab</td>
</tr>
<tr>
<td>Credits</td>
<td>1</td>
</tr>
<tr>
<td>Semester/Time</td>
<td>Fall 2018 3 hours/week per section; M, Th, F 11:00 – 1:50</td>
</tr>
<tr>
<td>Faculty</td>
<td>JoAnn Moriarty-Baron PT, DPT &amp; Kristin Soucy, PT, MSPT</td>
</tr>
<tr>
<td>Office Hours</td>
<td>Mon 9-10:30, Fri 9 - 10:30 or by appointment</td>
</tr>
<tr>
<td>Office</td>
<td>210 C</td>
</tr>
<tr>
<td>Phone/Email</td>
<td><a href="mailto:JoAnn_moriartybaron@uml.edu">JoAnn_moriartybaron@uml.edu</a>, <a href="mailto:Kristin_soucy@uml.edu">Kristin_soucy@uml.edu</a></td>
</tr>
</tbody>
</table>

**Course Description**

This laboratory course must be taken concurrently with Neurological Physical Therapy II, DPTH.6200. Emphasis is on the development of problem solving and psychomotor skills necessary for successful management of the patient/client with neurological dysfunction. Videos and patient demonstrations are used to develop skills in examination, evaluation, and clinical decision making. Peer practice is used to promote the development of psychomotor skills in advanced therapeutic exercise and functional training. Problem solving using case studies in the application of interventions for different levels of impairments, activity restrictions and participation limitations is stressed.

**Course Pre-requisites**

Neurological Physical Therapy I DPTH.6170  
Neurological Physical Therapy I DPTH.6190

**Course Co-requisite**

Neurological Physical Therapy I DPTH.6200

**Course Objectives**

Upon completion of this course, the students will be able to:

1. Evaluate videotaped patient performance and written clinical case data to determine physical therapy diagnoses and design an appropriate plan of care
2. Demonstrate regard for personal and patient safety at all times
a. Prepare the patient and treatment area properly.
b. Provide appropriate instruction and assistance.
c. Practice in a manner that minimizes risk to self and others.
d. Evaluate response to interventions and modify accordingly.
e. Demonstrate effective and safe use of equipment and adaptive devices.

3. Select, justify and administer interventions designed to improve static and dynamic postural control
4. Select, justify and administer chosen upper and lower extremity PNF techniques
5. Administer and interpret appropriate evidence-based test and measures used to evaluate vestibular system function including:
   a. Dix-Hallpike Test
   b. Roll test
   c. Gaze stability using the ETDRS chart
   d. Head Impulse Test (HIT)
   e. Head shake induced nystagmus test
   f. Spontaneous and gaze evoked nystagmus
   g. Smooth pursuits and saccades
6. Select, justify and administer interventions designed to remediate vestibular dysfunction
   a. Effectively perform appropriate repositioning maneuvers to correct anterior, posterior and horizontal canal BPPV canalithiasis.
   b. Administer interventions for habituation, compensation and adaptation
      i. Instruct a patient in Brandt-Daroff exercises
      ii. Instruct a patient in times one viewing, smooth pursuits and gaze shifting exercises
7. Select, justify and administer interventions designed to promote functional mobility in patients with spinal cord injury
8. Demonstrate effective teaching strategies for patients/families/caregivers.
9. Evaluate and critique the performance of peers, simulating the supervisor-student relationship in the clinical setting.
10. Communicate effectively in ways that are congruent with situational needs including appropriate body language, written communication, active listening skills, and questioning.
11. Exhibit appropriate professional behaviors consistent with the classifications of “intermediate” to “entry level” Professional Behaviors as outlined in the Graduate Student Manual and in accordance with the APTA Professionalism in Physical Therapy Core Values.

**General Information**

A. Teaching methods:
   “Flipped Classroom approach” for PNF techniques
   Demonstration
   Observational movement analysis
   Video demonstrations
   Group problem-solving
   Peer teaching
   Readings, handouts
   Practical examinations
B. Attendance:
Attendance is mandatory. Students must notify faculty regarding absence prior to the start of the class in order for an absence to be an excused absence. Students should immediately notify the instructor about conflict between their religious observance and course due dates/examinations.

C. Evaluation Methods:
Midterm Practical 50%
Final Practical 50%

D. Grading Scale:
A+=97-100  A = 93-96.9  A- = 90-92.9  B+ = 87-89.9  B = 83-86.9
B- = 80-82.9  C+ = 77-79.9  C = 73-76.9  F = < 73

Grading Policy: a minimum grade of C must be obtained in order to pass the course. In the event that a student fails a practical exam, she/he will be allowed to retake the exam once to bring the grade up to a C.

Students are reminded that continuation in the program necessitates achieving an overall grade point average of 3.0 (B) or better. Grades below 2.7 (B-) are not acceptable. No more than 9 credits below 3.0 may be counted toward the DPT degree (grades of B-, C+, or C).

A professional demeanor should be maintained at all times (including verbal and non-verbal communication) as outlined on the department’s clinical education wiki page and in The Department of Physical Therapy Graduate Student Manual. Students should also comply with the APTA’s Professionalism in Physical Therapy Core Values. Failure to do so may result in the generation of a critical incident report and/or a reduction in grade. The professor reserves the right to increase or decrease the final grade by up to 2% for professional behaviors.

Make-up examinations will be given only in specific cases of excused absence (illness, death in the family, or religious holiday). Circumstances that may warrant an absence should be discussed with the instructor before the scheduled time of the examination. Failure to meet the above criteria will result in an automatic zero grade for that exam.

E. Academic Integrity Policy:
All students are advised that there is a University policy regarding academic integrity. It is the students’ responsibility to familiarize themselves with these policies. If necessary, contact your advisor regarding these policies
https://www.uml.edu/Catalog/Graduate/Policies/Academic-Integrity.aspx
F. Zuckerberg College of Health Sciences Social Media Policy: Students must follow the policies on social media and other college policies.

The Zuckerberg College of Health Sciences recognizes that everyone involved in health care have a moral, ethical, and legal responsibility to maintain individual’s rights to privacy. HIPAA protects patient privacy by law and includes any individually identifiable patient information in oral or recorded form where the information could identify an individual by name, medical condition, demographic data, or other means. Students in the College are expected to act with honesty, integrity and respect the privacy rights of others. All students in the College are expected to meet their professional responsibilities when using social media and other electronic networks including but not limited to blogs, instant messaging, social networking sites, email, public media sites, and photographs. This policy prohibits posting written material or photographs that identify patients, health care agencies, educational institutions, or other students in clinical sites or patient related activities. This policy applies whether using University devices and computers, or personal equipment. In addition, all Zuckerberg College of Health Sciences students are required to abide by clinical agency policies related to the use of social media and technological resources. Failure to adhere to this policy may result in probation, suspension, or dismissal from the Zuckerberg College of Health Sciences and/or legal prosecution under the requirements of HIPAA.

https://www.uml.edu/Catalog/Undergraduate/Health-Sciences/Policy/Policy-default.aspx

G. Professional Behaviors:
Students are expected to comply with professional behaviors indicated on the department’s clinical education wiki page and in The Department of Physical Therapy Graduate Student Manual. Students should also comply with the APTA’s Professionalism in Physical Therapy Core Values.

H. Cell Phones and Other Devices:
All students should turn off or mute cell phones, beepers, and other electronic devices during class. During exams there will be no cell phones or other electronic devices allowed.

I. Disability Services:
If you have a documented disability that will require classroom accommodations, please notify the instructor within the first week to make appropriate arrangements. Please speak to the instructor either during office hours or privately to protect your privacy. Visit the Student Disability Services webpage at “http://www.uml.edu/student-services/disability/default.aspx” for further information. For detailed information contact: Disability Services, The Wellness Center, University Crossing Suite #300, phone 978-934-6800
Additionally, Student Disability Services supports software for ALL students. Read&Write Gold is literacy software that allows you to read on-screen text aloud, research and check written work, and create study guides. You can download the software from the IT Software webpage on the UML website: https://www.uml.edu/IT/Services/Software/Read-Write-Gold.aspx
J. Centers for Learning and Academic Support Services (CLASS):  
For detailed information contact: CLASS, O'Leary Library, UMass Lowell South, phone 978-934-2936. (http://www.uml.edu/CLASS/)

K. Credit Hour Policy  
Federal definition of a credit hour requires that for every course credit awarded, a course must offer 15 hours of instructor-led course activities and 30 hours of out-of-class student work.

L. Athletic Academic Policy  
Student-athletes must adhere to the athletic academic policy (http://www.uml.edu/Catalog/Undergraduate/Policies/Academic-Policies/Athletic-academic-policy.aspx).

Course Requirements

Dress

**Students should be appropriately dressed for every lab.** Inappropriate dress will be considered unprofessional behavior by the instructor and may result in a grade reduction.

Students may be asked to partially disrobe during any lab session to better view a body part. Appropriate attire includes:
- shorts or athletic shorts, t-shirts, women should wear sport tops  
  - students may wear sweats over lab clothes; labs are frequently cold or hot depending on the time of year  
- sneakers  
- long hair must be tied back and off the shoulder  
- jewelry or piercings which is a safety hazard must be removed (bracelets, long dangling earrings, hoops, rings, or chains)  
- fingernails must be kept short to avoid risk of injury during manual therapy procedure

Inappropriate attire includes:
- hats of any type  
- Clothing that contains inappropriate or suggestive language or pictures

Behavior

**Cell phone use, email and texting are not permitted during lab.** Students engaging in activities other than lab work will be asked to leave class as this behavior is considered unprofessional by the instructor.

A professional atmosphere should be maintained at all times

Students are expected to work on specific psychomotor skills outside scheduled class time. To learn a skill, significant practice is required. Extra lab time may be scheduled. A key to the lab may be obtained through Ann Bratton, PT program administrator.
Grading Rubrics

Neuro II Lab Practical: Grading Tool

Name ____________________________________________ Date________________

Grading Scale (unless otherwise indicated)
0 – Unacceptable: many major errors
1 – Needs further improvement / somewhat appropriate choice
2 – Good: few errors / demonstrates appropriate reasoning

The following two criteria are pass/fail. Unacceptable performance on either will result in failure on the practical examination.

Professional Demeanor _______ Pass _______ Fail
Safety _______ Pass _______ Fail

Pick two cards: one vestibular technique / SCI intervention and one PNF technique, perform as indicated.

PNF Technique

<table>
<thead>
<tr>
<th>Elements of Intervention</th>
<th>√ = full pts</th>
<th>Performance rating, comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication skills / patient interaction (1 pt each)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. provides appropriate introduction</td>
<td></td>
<td></td>
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<tr>
<td>2. speaks clearly and at level of the learner</td>
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<td></td>
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<tr>
<td>3. adequately explains /demonstrates intervention</td>
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<td></td>
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<tr>
<td>4. confirms patient understanding</td>
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<td></td>
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<tr>
<td>5. provides appropriate feedback</td>
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<tr>
<td>Explains rationale for intervention (2 pts)</td>
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<td></td>
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<tr>
<td>6. correctly identifies activity limitations that this intervention will address</td>
<td></td>
<td>/5</td>
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<tr>
<td>7. identifies category of motor skill</td>
<td></td>
<td></td>
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<tr>
<td>8. identifies appropriate patient population for technique</td>
<td></td>
<td>/6</td>
</tr>
<tr>
<td>Executes intervention (2 pts each)</td>
<td></td>
<td></td>
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<tr>
<td>9. positions patient correctly</td>
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<td></td>
</tr>
<tr>
<td>10. uses appropriate manual skills/ manual contacts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. uses appropriate verbal commands</td>
<td></td>
<td></td>
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<tr>
<td>12. Executes technique correctly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Uses appropriate resistance, stretch/approximation, timing</td>
<td></td>
<td>/14</td>
</tr>
<tr>
<td>14. demonstrates safe body mechanics (therapist &amp; patient)</td>
<td></td>
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</tbody>
</table>
### Elements of Intervention

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<th>Communication skills / patient interaction</th>
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<tbody>
<tr>
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### Safety

<table>
<thead>
<tr>
<th>Safety</th>
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<tbody>
<tr>
<td>6. Identifies potential safety concerns inherent to the case (4 pts)</td>
<td>6</td>
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<tr>
<td>7. Takes appropriate precautions (2 pts)</td>
<td>6</td>
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### Executes intervention (2 pts each)

<table>
<thead>
<tr>
<th>Executes intervention (2 pts each)</th>
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<tbody>
<tr>
<td>8. positions patient correctly</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>9. uses appropriate manual skills/ manual contacts</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>10. uses appropriate verbal commands</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>11. Executes technique correctly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. demonstrates safe body mechanics (therapist &amp; patient)</td>
<td>2</td>
<td></td>
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<tr>
<td>13. modifies intervention as needed</td>
<td></td>
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### Provides follow-up (2 pts)

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<thead>
<tr>
<th>Provides follow-up (2 pts)</th>
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<tbody>
<tr>
<td>14. Instructs patient in home exercise, provides caregiver or patient education</td>
<td>2</td>
<td></td>
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### Score

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<thead>
<tr>
<th>Score</th>
<th></th>
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</table>

**Total score _____________ / 50**

A = 48-50,
A- = 46-47
B+= 44-45
B = 42-43
B- = 40-41
C+=38-39,
C = 36-37
**Readings/Resources**

**Required Text**


Available at: [http://library.uml.edu/media/pt/pnf.html](http://library.uml.edu/media/pt/pnf.html) (Password provided by instructor)

**Course Outline & Tentative Class Schedule:**

<table>
<thead>
<tr>
<th>Week Date 2017</th>
<th>Topic</th>
<th>Resources / Assignments:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> 1/22-25</td>
<td>Integrated Clinical Experience at Northeast Rehab</td>
<td>Improving Functional Outcomes in Physical Rehabilitation (IFO)</td>
</tr>
<tr>
<td><strong>2</strong> 1/29- 2/2</td>
<td>Lab1 Introduction Balance Assessment, Interventions: *Lab activities handout: CTSIB c &amp; w nystagmus Box 9.8 Practice interventions Box 9.9 Identification of appropriate interventions table *Tai Chi practice with video</td>
<td>IFO Chapter 9, Box 9.8, 9.9</td>
</tr>
<tr>
<td><strong>3</strong> 2/5 – 2/9</td>
<td>Lab2 Locomotor Gait Adaptability Training: *Lab activities handout *LSVT BIG practice with video PNF D1 LE patterns #1-3</td>
<td>Motor Control chapter 16 p. 445-453</td>
</tr>
</tbody>
</table>

IFO Chapter 10 (p. 226-233, 243-249) Box 10.3

IFO Chapter 3 PNF
<table>
<thead>
<tr>
<th>Date</th>
<th>Lab</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 2/12 - 2/16| 3    | **Lab 3: Locomotor Training Cases**  
*Case-study 1 exam (TBI)  
Groups answer case questions #3,4,5  
*Case-study 2 video & Case study 3 video  
Compare; why did outcomes differ?  
*Video Case- Judy  
PNF D2 LE patterns #4-8  | **IFO cases studies 1, 2, 3**  
IFO Chapter 3 |
| 2/19 - 2/22| 4    | **Lab 4: Cerebellar case:**  
*View Cerebellar Glioblastoma video  
Examination segment;  
break into groups to create a  
Treatment plan & therapeutic interventions  
Share & discuss  
View case interventions & outcomes  
PNF LE patterns #9-10, UE #11-13  | **Motor Control** Chapter 11 p.299 -304  
*Video: Improving Functional Outcomes  
**Davis Plus website:** Student Premium  
Case 11 Cerebellar Glioblastoma  |
| 2/26 - 3/2 | 5    | **Lab 5: Vestibular Rehabilitation part A**  
*Review sample vestibular eval  
*Tests/findings for CVD vs. PVD  
*ETDRS  
PNF UE patterns #14-15  | **IFO chapter 13 Vestibular Rehabilitation** |
| 3/5 - 3/9 | 6    | **Lab 6: Vestibular Rehab. part B**  
*positional tests c & w goggles  
*BPPV video (JP)  
*Treatment; CRTs  
*practice all maneuvers  |                        |
| 3/8       | 7    | **Spring Break**  |                                    |
| 3/19 - 3/22| 8    | **Lab 7: Vestibular Rehab part C**  
*Treatment; habituation (Brandt- Daroff)  
Substitution; gaze shifting  
Adaptation x1 viewing  
*Video Case-study 5 (all segments)  
*practice all interventions  
Sign up for practical exams  | **IFO Case-study 9** |
| 3/26 - 3/29| 9    | **Practical Exam I**  |                                    |
| 4/1 - 4/6 | 10   | **Lab 8: SCI part A**  
*video from SCI Injuries; Janine (all)  
*Functional training: rolling, prone, supine #1-4  
*Case study 7 video (Exam, intervention)  
PNF UE patterns #16-19  | **IFO Case-study 7** |
<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Assignment</th>
<th>Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>4/9-4/13</td>
<td>Lab 9: SCI part B</td>
<td>IFO Chapter 7 p.159-166</td>
</tr>
</tbody>
</table>
|      | Thurs 4/8 to Fri 4/9 8 -10:50 | *Functional Training: Sitting balance Training #5-9  
Even transfers #10  
Finish PNF UE patterns #20-21 |           |
| 13   | 4/16 - 4/19 | Lab 10: SCI part C                                                         | IFO Chapter 7 p.166-168|
|      | NO Monday Lab | *video SCI Injuries; Ian (transfers, wheelies)  
SCI Functional Training:  
Uneven transfers #11  
W/C mobility- practice wheelies  
Functional Training: standing #12-13  
*video SCI Injuries; Wayne  
Sign up Practical exam II | IFO Chapter 8 |
| 14-  | 4/23        | Lab 10 (as above)                                                         |                        |
| 15   | 4/30        | Practical Exam II                                                         |                        |

**Useful Web-Resources:**

- O’Leary Media Center; O'Sullivan, S. *Functional Training for Physical Rehabilitation* available at: [http://libweb.uml.edu/media/pt](http://libweb.uml.edu/media/pt)
- American Physical Therapy Association- [http://www.apta.org](http://www.apta.org)  
American Public Health Association (APHA) – [http://www.apha.org](http://www.apha.org)
- Council for the Education in Public Health (CEPH) - [http://www.ceph.org/i4a/pages/index.cfm?pageid=1](http://www.ceph.org/i4a/pages/index.cfm?pageid=1)
- Society for Public Health Education (SOPHE) - [http://www.sophe.org/](http://www.sophe.org/)
- Public Health Foundation- [http://www.phf.org](http://www.phf.org)
- Center for Disease Control and Prevention-CDC- [www.cdc.gov](http://www.cdc.gov)