Physical Therapy in Pediatrics
DPT Physical Therapy Curriculum:
Year 2 – Summer Semester 2017
Credit hours: 4 credits PHT 6322
Sections: 7296, 7309, 7F69
CLC @ CVS Building

<table>
<thead>
<tr>
<th>Instructor:</th>
<th>Claudia Senesac, PT, PhD, PCS</th>
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<tbody>
<tr>
<td>Assistant Instructors:</td>
<td>Amanda Guevara, PT, DPT, PCS</td>
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<tr>
<td></td>
<td>Lourdes Menglekoeh, PT</td>
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<tr>
<td>Teaching Assistant:</td>
<td>Kavya Kamalamma, PT</td>
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Course description:
- The course will include the following: typical development, reflexes and the role of reflexes in movement development, atypical development and its clinical outcomes, review of motor control / motor learning theories and their application to pediatrics, family dynamics and the role of the therapist, public laws that affect pediatric practice (schools and early intervention), ethical and legal issues. Assessment and therapeutic intervention strategies for the pediatric population will be stressed. The course will cover selected medical conditions specific to the pediatric population.
- Didactic, movement lab experiences, hands on experience with pediatric patients from a private clinic in the community, treatment demonstrations, and special guest speakers will be included in this course to facilitate specific objectives.
- The course is designed to focus on treatment and handling skills specifically with the pediatric population. However, emphasis is placed on the overlap and application of concepts, techniques, critical thinking skills, and problem solving as these apply to all populations. Application of motor learning and motor control concepts across populations will be emphasized.
- Didactic materials will be presented online through Canvas and will include but not limited to: ppt. required readings, references, optional readings, in class research, and other. Materials posted 1 week in advance of class discussion.
- Students are responsible for all required materials and will be tested weekly through quizzes (video or paper) consisting of 5-10 questions. *see grading
- Class will be organized to review in more detail the topic posted. This will consist of discussion, video, analysis, patient demonstration, problem solving, research, and lab periods for hands on treatment techniques.

Course prerequisites: Course participation is limited to entry-level DPT students in their second year of the UF program.
**Instructor:** Claudia Senesac PT, PhD, PCS  
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**Assistant Instructors:**  
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**Teaching Assistant:**  
Kavya Kamalamma, PT  
kskavya@ufl.edu  
Office Hours: *email for an appointment

<table>
<thead>
<tr>
<th>Monday</th>
<th>Make Up Dates</th>
<th>4:15-6:30pm</th>
<th>May 15th, 22nd, June 12th</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday</td>
<td>Lecture:</td>
<td>8:00-9:15am</td>
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<tr>
<td></td>
<td>Lab A:</td>
<td>9:30-12:00pm</td>
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<tr>
<td></td>
<td>Lab B:</td>
<td>12:30-3:00pm</td>
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<tr>
<td>Friday</td>
<td>Combined Lecture/Lab:</td>
<td>8:30-12:30pm</td>
<td><strong>Sometimes Earlier Start</strong></td>
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*Please be flexible! Bringing patients and guest speakers in for class can be unpredictable. We will do our best to keep to the schedule.*

**Clinic Site:** CLC @ the CVS Building

**General Objectives:**

1. **Guide to PT Practice model and the ICF model:**  
   1.1. The student will recognize the differences in the application of these models to the pediatric populations  
   1.2. The student will develop treatment plans based on the Guide to PT Practice model.  
   1.3. The student will apply the ICF model as they develop goals for the pediatric population with regard to participation (play, school, community)

2. **Theories of motor control, motor learning, and motor development:**  
   1.1 Define identified motor control terminology.  
   1.2 Discuss/explain factors influencing motor learning for skill acquisition.  
   1.3 Explain factors that affect therapy interventions related to principles of motor learning and motor control

CS 05072017
1.4 Discuss the relationship of motor learning to typical/atypical development
1.5 Demonstrate concepts of practice, feedback, stages of learning through lab activities and clinic experience related to this course
1.6 Explain and demonstrate through lab and clinic experience related to class how learned motor skills generalize to other untrained skills.
1.7 Discuss the different types of attention and how they affect motor skill acquisition and performance
   1.7.1 Demonstrate through treatment design how to address deficits in attention especially scanning attention
1.8 The student will be able to analyze movement, design treatment, and modify POC based on motor control and motor learning concepts.
1.9 The student will be able to analyze movement using the Information Processing Model

2. Typical Development and reflexes:
2.1 Contrast respiratory rate, heart rate, and blood pressure between the newborn infant and developing child up to a 5-6 year old child.
2.2 Describe and discuss nervous system and musculoskeletal development.
2.3 Discuss the implications of birth weight and its value as a predictor of typical development.
2.4 Describe the Apgar Scale and its purpose.
2.5 Describe and compare typical characteristics of the full term infant and premature infant
   2.5.1 Differentiate development of a full term infant
   2.5.2 Differentiate development of a premature infant
2.6 Identify components of a newborn exam.
2.7 Explain habituation and its significance with the neonate.
   2.7.1 Maturation in the full term infant
   2.7.2 Maturation in the premature infant
2.8 Explain the testing procedures for, responses to, and significance of developmental reflexes and reactions.
   2.8.1 Recognize need to perform primitive reflex testing
   2.8.2 Ability to perform primitive reflex testing in the neurological patient
2.9 Differentiate and discriminate between changes in development if pathological reflexes persist. This will be done through lab activities.

3. Gross Motor Development:
3.1 Describe and discuss gross motor progression from 0-2 years of age.
3.2 Discuss the development of typical postural control: righting reactions, protective reactions, equilibrium reactions and balance.
   3.2.1 Perform facilitation techniques of postural reactions – will be done in lab activities and tested in competencies
3.3 Analyze the movements and behavior of typical children between the ages of 0-12 months and determine the demonstrated gross motor age of the child. This will be done during lab activities and demonstrations “baby day”.

CS 05072017
3.4 Describe the progression of GM skills in children that demonstrate typical
development between the ages of 0-12 months
3.5 Describe and recognize the progression of gait from automatic walking to
independent ambulation.
3.6 Describe the physical requirements and prerequisites needed for ambulation.

4. **Fine Motor/Vision/Speech/Cognition/Sensory Processing:**
   4.1 Describe and discuss development of reach and grasp patterns.
   4.2 Describe and discuss fine motor development.
      4.2.1 Be able to perform a FM screening to determine if referral necessary
to OT
   4.3 Identify the sequence in the development of FM skills
   4.4 Describe how vision contributes to environmental problem solving.
   4.5 Identify and describe how information processing is important in vision and
   FM control.
   4.6 Identify the sequence in the development of vision
      4.6.1 Perform a functional vision screening exam
   4.7 Describe and discuss the development of the sensory processing system
      4.7.1 Discuss and demonstrate treatment techniques that would address
      sensory processing deficits
   4.8 Identify the sequence in the development of oral motor skills
   4.9 Describe and be able to discuss the development of communication skills
      (including expressive and receptive timelines) in children 0-2 years of age
      4.9.1 Be able to perform a language screening to determine if referral is
      necessary for a Speech and Language evaluation
   4.10 Identify the connection between cognition, FM skills, GM skills, Speech, and
   vision

5. **Postural Control:**
   5.1 Discuss the basic principles for control of movement and posture.
   5.2 Identify, discuss, and demonstrate the balance strategies.
      5.2.1 perform facilitation of balance reactions: righting, equilibrium,
      protective extension
   5.3 Discuss guidelines that can be used to differentiate problems with head and
   trunk control.
   5.4 Demonstrate treatment techniques for the child with head and trunk control
   problems.

6. **Atypical Development:**
   6.1 Identify potential problem signs, soft signs, or “red flags” of development.
   6.2 Discuss the sequence of atypical motor development including missing
   components, compensations, habit, possible contractures and deformities.
   6.3 Describe how atypical motor development can lead to problem areas.
   6.4 Discuss and describe the difficulties that can occur: neck, shoulder, pelvic-hip
   when atypical development is present.
   6.5 Demonstrate/Perform “select” treatment strategies for the neck, shoulder, pelvic-
hip areas.
6.6 Describe and be able to demonstrate pelvic positions and gait patterns noted with atypical/pathological muscle tone.
6.7 Analyze movement of a child by watching videotape and prioritize key areas that interfere with typical movements.
6.8 Analyze movement of a child in clinic setting prioritizing key areas that interfere with typical movements.

7. Adaptive Equipment:
7.1 Discuss the role of adaptive equipment for the special needs child at home, in school, in the community.
7.2 Describe the criteria to consider when evaluating a special needs child for adaptive equipment.
7.3 Identify 5 criteria to address when purchasing adaptive equipment for the special needs child.

8. Public Laws:
8.1 Explain the overall purpose of the Education of the Handicapped Act and its Amendments: the diagnostic criteria students must meet to qualify for special education services; the IEP, least restrictive environment, transition services
8.2 Explain the overall purpose of Part C of PL 99-457, including: the emphasis on the family, the IFSP, the differences between the IEP and the IFSP: eligibility requirements.
8.3 Explain how a therapist determines educational relevance for a student to receive services.
8.4 Define and give examples of the terms: transdisciplinary, multidisciplinary, and interdisciplinary.
8.4.1 Differentiate the above terms

9. Family/Client/Professional Communication:
9.1 Describe benefits of family centered care.
9.2 Describe barriers to family centered care.
9.3 Demonstrate appreciation for cultural diversity as it influences treatment plan of care and family centered goals.
9.4 Identify/describe characteristics of family impact related to having a disabled child
9.5 Modify treatment POC, interaction with family and child as needed based on interaction and cultural diversity.

10. Guest Speakers:
10.1 Describe impact of diagnosis on child/family based on lectures presented by children and/or family-assessed through discussion
10.2 Describe personal impact on self- as a result of lecture by children and/or family.
This will be assessed through discussion.
11. Therapist Role:
11.1 Discuss the role of the therapist in the treatment of children
   11.1.1 With family, caregivers
   11.1.2 With the medical community
11.2 Understand the legal and ethical obligations to the child and family
   11.2.1 Child abuse
   11.2.2 Child neglect
   11.2.3 Family support
11.3 Understanding “Toxic Stress” for families and children
   11.3.1 Identifying signs and symptoms of toxic stress
   11.3.2 Identify referral potential referral sources

12. Treatment Strategies:
These will be assessed during competencies where the student will perform the
techniques on the instructor. These competencies are P/F however every critical
component listed below must be passed. In the event that the student fails the competency
remediation will be arranged with one of the instructors and then re-testing will be
arranged until the objectives are met.

12.1 Student will be able to demonstrate/perform at least one technique each for the
treatment of the following: Facilitation of: 1) head control, 2) rolling, 3) getting into
sitting, 4) sit to standing, 5) gait, 6) other
   12.1.1 Appropriate hand placement
   12.1.2 Safety during movement transitions
12.2 Student will be able to perform two techniques for inhibiting spasticity:
   12.2.1 Appropriate hand placement
   12.2.2 Safety during treatment
12.3 Student will be able to demonstrate two techniques for facilitating tone:
   12.3.1 Appropriate hand placement
   12.3.2 Safety during treatment
12.4 Student will be able to demonstrate facilitating postural reactions.
   12.4.1 Appropriate hand placement
   12.4.2 Safety during treatment
12.5 Student will be able to demonstrate/perform a treatment progression
   12.5.1 Appropriate transitions
   12.5.2 Safety during treatment

13. Selected Pediatric Conditions:
13.1 Student will be able to describe/define selected pediatric conditions including but
not limited to: CP, torticollis, sports injury, Down syndrome, Spina bifida, DMD/Becker
MD, SMA, common orthopedic conditions, mitochondrial disorders, Marie Charcot
Tooth disease, Autism spectrum, and other…
   13.1.1 Differentiating diagnosis
   13.1.2 Differentiating prognosis
   13.1.3 Determining the correct pediatric practice pattern from the APTA
       Guide to PT Treatment
13.2.4 Describe etiology, pathology, and signs/symptom
13.2.5 Justify clinical disposition
13.2.6 Describe, justify, determine role of PT in care

14. Behavior Modification
14.1 Define classic terminology related to behavior modification
14.2 Describe concept of rewarding, reinforcing behaviors to enhance therapy outcomes

Teaching Methods:
This is a lecture/lab course. Part of the course is presented as a “Flip” classroom with much of the didactic work presented online with higher level learning including analysis and synthesis of the material done during class-time. The lectures will include formal presentations including power point, videos, and class discussions. Labs will provide movement experiences and treatment strategies, including patient demonstrations, followed by discussion. Small group discussions will be led by students and supervised/mediated by instructors. Patient interaction, student participation for supervised hands on experience will be provided. Students are expected to come to class prepared to participate having accessed preparatory material online including but not limited to power point, required readings, and other required headings. Modules will be available through e-learning for independent study in preparation for class, labs, and discussion. Individual objectives will be listed for each module.

Student Presentations:
There will be assigned “short” presentations throughout the semester. Topics will be assigned in small groups and presented in class.

Resources: Readings /Videos will be assigned at the sites below and from journal articles
1. Center on the Developing Child: Harvard University
   http://developingchild.harvard.edu/resourcecategory/reports-and-working-papers/
   a. Resource Library TAB
2. Pediatric Section: https://pediatricapta.org/index.cfm
   a. Fact Sheets for the following topics:
   b. Follow link: https://pediatricapta.org/fact-sheets/
3. Pediatric Neurologic Exam-University of Utah
   b. **you will need to Download Quick Time to view these videos

Additional Recommended textbooks as references: (*updated 4/5/17)

Additional readings: Selected readings may be assigned: These will be posted on Canvas as permitted or available from the HSCL. You will be tested on the required readings.

Testing and grading: This course will be graded according to the departmental guidelines located in the student handbook. Attendance is required. There will be two written exams, both consisting of questions drawn from the readings, video, DVD/CD’s, lectures, guest speakers, handouts, and labs preceding the exam. Exams will include multiple choice, true/false, short answer, and essay. All exams/quizzes are cumulative. Please refer to the course objectives in the syllabus as a study guide for both reading assignments and exams. There will be a quiz each week (probably on Tuesday’s). One lab competency will be given in the lab portion of this class at the end of the semester. Details of which are described in the objectives.
Lecture: Please wear **clinic attire** when we have **guest speakers** and during **clinical experience** time periods.

**Labs:** Wear lab attire as specified in the student handout. You will be on the floor during these labs. Socks may be worn during labs to protect the feet…You will be asked to **remove your shoes** during lab and patient treatment periods if working on the floor.

**Set up and Clean up**
Setting up the classroom and lab, sweeping the floor, cleaning the mats, and preparing for guest speakers will be assigned.

**Clinical Experience-Clinic Attire Required**
This experience is to provide an opportunity for hands on learning under the supervision of a pediatric therapist. The goal is to improve your handling skills, problem solving, critical thinking skills, and ready you for your clinical rotation in the fall. There will be 4-6 treatment sessions. You will be responsible for fulfilling your commitment with the patient group you are assigned to. **Points for this experience are determined by your mentor who will assess you 3 times over this period.**

**Selected “Special Topics” DUE May 5th**
Each student will be given a “topic” to research and then be prepared to present information on the topic when the subject comes up in class. There is not a set day/time to present so the assignment is due the second week. We will discuss this in class with more details to come. **Total points = 5 points**

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**Grading:**

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<tr>
<th>Grading:</th>
<th>Points</th>
<th>Grading scale</th>
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<tbody>
<tr>
<td>Exam I - midterm</td>
<td>100</td>
<td>93-100 = A 4.00 grade point</td>
</tr>
<tr>
<td>Exam II – final Cumulative</td>
<td>100</td>
<td>90-92 = A- 3.67 grade point</td>
</tr>
<tr>
<td>Quizzes (10-12) 10 pts/each (Adjusted for # of quizzes)</td>
<td>100-120</td>
<td>87-89 = B+ 3.33 grade point</td>
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<tr>
<td>Video Quizzes (5) 10 pts/each (Adjusted if &lt; 5)</td>
<td>50</td>
<td>83-86 = B 3.00 grade point</td>
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<tr>
<td>Clinical exp. (20pts/ea assessment by mentor) (Adjusted for # of assessments)</td>
<td>60</td>
<td>80-82 = B- 2.67 grade point</td>
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<tr>
<td>Conference Gainesville PPMD</td>
<td>50</td>
<td>77-79 = C+ 2.33 grade point</td>
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<tr>
<td>Competency</td>
<td>50</td>
<td>73-76 = C 2.00 grade point</td>
</tr>
<tr>
<td>“Skill Acquisition” Presentation</td>
<td>15</td>
<td>70-72 = C- 1.67 grade point</td>
</tr>
<tr>
<td>Equipment Assignment</td>
<td>15</td>
<td>67-69 = D+ 1.33 grade point</td>
</tr>
<tr>
<td>“Your” Special Topic</td>
<td>5</td>
<td>63-66 = D 1.00 grade point</td>
</tr>
<tr>
<td>Other Assignments</td>
<td>15/ea</td>
<td>60-62 = D- 0.67 grade point</td>
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<tr>
<td>TOTAL (adjusted if needed)</td>
<td>Total</td>
<td>Below 60 = E 0 grade point</td>
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**Skill Acquisition DUE MAY 19th**
Each student will be given a “Motor Skill” to research and answer specific “questions”. These will be presented in class [10 minutes or less]. **Total points = 15 points**

**Equipment Assignment**
You will be provided with a case history of a child that will need equipment. This assignment will take place in class in small groups. **Total Points = 15**

**Exercise Progression Assignment**
You will work on this assignment in class in small groups. **Total Points = 15**

**Parent Project Muscular Dystrophy “Every Single One” Conference**
This will take place on June 3rd. We will discuss the details in class. An exciting agenda is planned for that day. Professional attire is required. **NOT CONFIRMED**
Total points = 50 points

**Academic Honesty:**
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. Further details regarding the University of Florida honesty policy is available at: [www.aa.ufl.edu/aa/Rules/4017.htm](http://www.aa.ufl.edu/aa/Rules/4017.htm)

All students are required to abide by the Academic Honesty Guidelines; the following pledge has been accepted by the University and is expected 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.”

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 UF students, the following pledge is either required or implied:

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

**Accommodations for students with disabilities:**
Students requesting classroom accommodations must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor and Curriculum coordinator when requesting accommodation.
Professional Behavior: Please refer to your student handout. Effective professional behavior is critical for a successful transition from the classroom to the clinical setting. The faculty recognizes the importance of these behaviors and has incorporated the development as well as evaluation of these behaviors into each academic course. In order to demonstrate safe and effective professional behavior prior to clinical visits that occur in the third year of the curriculum, all students must attain “beginner level” as demonstrated by behaviors in the classroom and lab by the end of the second semester in the curriculum. Students will formally self-evaluate their professionalism at midterm and end of second semester. Additional feedback will be provided by peers, instructors, and teaching assistants. Additionally, students must demonstrate 100% safety on all practical exams throughout the curriculum. Should a student fail a practical exam, due to safety or additional reasons, they will have only one opportunity to repeat the exam. Students must maintain entry-level professionalism throughout the remainder of the academic and clinical curriculum. Failure to do so will prevent the student from advancing in the curriculum.

This course progresses at a rigorous pace. It is strongly recommended that you not fall behind. The first part of the course is heavy in foundational materials...stay on top of it. Assignments to prepare you for class are posted the week prior on Canvas. Come prepared to think out loud, ask questions, participate, and learn. Leave yourself open to grow. It requires much teamwork, collaboration, imagination, creativity, energy, thinking outside the box, problem solving, critical thinking, analyzing, synthesizing information, and most importantly…a sense of humor. 

Soooo BRING IT!