Spring 1-2003

PT 528.01: Therapeutic Interventions II

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Course Description

The faculty designed this course to be closely integrated with PT 519 – Musculoskeletal Evaluation II. This course will introduce the student to a wide variety of therapeutic interventions to a wide variety of common conditions. The goal of this course is to give the student a theoretical and practical framework so that they can develop, implement, and modify an appropriate and effective therapeutic intervention for their client.

Be mindful of the Physical Therapy Generic Abilities in your approach and participation in this class. It is expected that you will attend class and be on time.

Required Textbooks


APTA (2002). Interactive guide to physical therapist practice with catalogue of tests and measures Version 1.0 CDROM. Alexandria, Virgina: APTA


Class Meeting Times

Mondays  10:10 AM to 12:00 PM – Room SB113/020/025
Tuesdays  3:10 PM to 5:00 PM – Room SB 113//020
Fridays  8:10 AM to 10:00 AM - Room SB 113//020/025/PT Clinic

Laboratory Attire

Men and women must wear loose shorts and women must wear an appropriate bra, sports bra or the upper portion of a two-piece swimsuit (one piece swimsuits are not acceptable). Sweats may be worn during lab when not acting as the client.

Course Evaluation

The PNF section of this course will be worth 25% of the student’s final grade. Ann Williams will provide the precise breakdown of this 25%.

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid Term 1 (March 14)</td>
<td>100</td>
</tr>
<tr>
<td>Case Study Project and Presentation (Group)</td>
<td>70</td>
</tr>
<tr>
<td>Comprehensive Final Examination</td>
<td>100</td>
</tr>
<tr>
<td>2 – Homework Assignments</td>
<td>Pass/No Pass</td>
</tr>
</tbody>
</table>

* These course components must be successfully completed with a score of ≥ 70% as per the student handbook (academic and performance standards)

† For the purposes of this course a pass is considered to be > 80%. Assignments that do not meet this standard will be returned. All assignments must be satisfactorily completed as part of the minimum requirements of this course.

!! Exam and quizzes will cover lecture, lab, and assigned readings!!
Course Behavioral Objectives

1 = Knowledge and Comprehension
2 = Application
3 = Psychomotor
4 = Synthesis
5 = Affective

A. Basic principles of therapeutic exercise

1.1 List the general categories of exercise and their effect on body tissues (passive, active, resisted, endurance, coordination, relaxation)
1.2 Give the goals for use of each type exercise
1.3 Discuss the contraindications for each type of exercise
1.4 Name exercise equipment that will accomplish each category of exercise
2.1 Describe specificity of exercise and relate this principle to a given case
3.1 Demonstrate appropriate exercise for given case, including patient position, verbal directions, equipment, speed, repetitions, duration, type of contraction, etc
3.2 Write a concise and clear home exercise program
3.3 Document therapeutic exercises clearly and concisely
4.1 Given a written physical examination, create an exercise program: integrating the problem list and goals, function, and principles of biomechanics
4.2 Critique an exercise protocol for a given case and offer alternative approaches
4.3 Compare and contrast exercise equipment for a given case
5.1 Participates and practices in and out of class
5.2 Effectively teaches classmates exercise programs including the following components

1. Strengthening/ Resistive
   a. Isotonic
   b. Isometric
   c. Isokinetic
   d. Concentric
   e. Eccentric
   f. Open chain/Closed chain
   g. Muscle soreness
2. Endurance
   a. Muscular
   b. Cardiovascular
3. Mobility and flexibility
   a. Passive ROM
   b. Stretching
   c. Active-assisted and active
4. Coordination, balance, and skill
5. Equipment
   a. Isokinetic dynamometers
b. Weight room (selectorized and free)

c. Ergometers (cycle, treadmill, & arm)

d. Hydraulic equipment

e. Isotonic equipment

f. Elastics

g. Gymnastic Balls

h. Misc. (items found in clients homes & "over-the-counter")

B. Basic principles of biomechanics, normal tissue response to forces, and pathomechanics

1.1 Describe basic biomechanical principles related to therapeutic exercise and ergonomics

1.2 Give normal and abnormal response to external forces

1.3 Describe normal and abnormal forces at specific joints

2.1 Create a specific exercise for a given pathology and dysfunction

2.2 Predict tissue damage with a given force

4.1 Compare and contrast exercise equipment for efficacy, safety, and cost

4.2 Compare and contrast exercise strategies and techniques for specific pathophysiology and dysfunction

4.3 Evaluate a work area and make suggestions to increase efficiency and decrease abnormal tissue loading

5.1 Choose appropriate exercise, considering the client's motivation and socioeconomic factors

C. Literature and Research in Therapeutic Exercise

1.1 Demonstrate familiarity with research in Therapeutic Exercise.

5.1 Demonstrate an interest in pursuing literature/research as a life-long pursuit.

Course Schedule (Very much tentative)

Mon., Jan. 27          Course introduction. Therapeutic interventions a re-introduction.

Tues. Jan. 28          Shoulder/UE therapeutic interventions

Fri., Jan 31           Shoulder/UE therapeutic interventions

Mon., Feb. 3           Shoulder/UE therapeutic interventions

Tues. Feb. 4           Shoulder/UE therapeutic interventions

Fri., Feb. 7           Shoulder/UE therapeutic interventions

Mon., Feb. 10          Lumbopelvic therapeutic interventions

Tues., Feb. 11         PNF 1

Fri., Feb. 14          TBA
Mon., Feb. 17  Presidents Day
Tues., Feb. 18  PNF 2
Fri., Feb. 21  Lumbopelvic therapeutic interventions

Mon., Feb. 24  Lumbopelvic therapeutic interventions
Tues., Feb. 25  PNF 3
Fri., Feb. 28  Lumbopelvic therapeutic interventions

Mon., Mar. 3  Taping
Tues., Mar. 4  PNF 4
Fri., Mar. 7  Taping

Mon., Mar. 10  Taping
Tues., Mar. 11  PNF 5
Fri., Mar. 14  Midterm Examination

Mon., Mar. 17  Isokinetics
Tues., Mar. 18  PNF 6
Fri., Mar. 21

Mon., Mar. 24 -28  Spring Break

Mon., Mar. 31  Ball/Isokinetic Lab
Tues., Apr. 1  PNF 7
Fri., Apr. 4  Ball/Isokinetic Lab

Mon., Apr. 7  LE therapeutic interventions
Tues., Apr. 8  PNF 8
Fri., Apr. 11  Aquatic Physical Therapy
Sat, Apr. 12  Grizzly Pool 10:00 - noon

Mon., Apr. 14  LE therapeutic interventions
Tues., Apr. 15  PNF 9
Fri., Apr. 18  LE therapeutic interventions

Mon., Apr. 21  LE therapeutic interventions
Tues., Apr. 22  PNF 10
Fri., Apr. 25  LE therapeutic interventions

Mon., Apr. 28  TBA
Tues., Apr. 29  PNF 11
Fri., May 2  TBA

Mon., May 5  TBA
Tues., May 6  TBA
Fri., May 9  TBA
Unit on Proprioceptive Neuromuscular Facilitation
Spring 2003

I. Unit meets Tuesday 3-5 PM, February 11-April 29.

II. **Professor:** Ann K. Williams, PT, PhD

III. **Contact Hours:** 20

IV. **Unit Description:** Theoretical background and practical application of Proprioceptive Neuromuscular Facilitation (PNF) exercise technique. Strong emphasis on laboratory practice and case studies.

V. **Required Reading:**
Selected Readings and Handouts
FACPAC in Bookstore

VI. **Evaluation:** Evaluation of PNF Material will include a written quiz, exam, and practical "check-outs". The unit is worth approximately 70 points. All students will be required to "check out" on the patterns to assure basic competency. Times for the check out will be during the unit. The check out will be worth 15 points.

VII. **Course Objectives:** See attached

VIII. **Course Outline and Reading:** See Attached

IX. **Teaching Methods:** Lecture/Demonstration, laboratory practice, case examples

X. **Laboratory:** Every class meeting will require laboratory work, so please be prepared to dress for lab each time. Lab clothing, as always, includes shorts and T-shirts (may add sweats) for the men, and shorts, top, T-shirts (may add sweats) for the women.
Course Outline

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 11</td>
<td>Basic Principles</td>
</tr>
<tr>
<td></td>
<td>UE Patterns</td>
</tr>
<tr>
<td>Feb 18</td>
<td>UE, Scapular Patterns, Bilateral UE, Upper Trunk, Head &amp; Neck</td>
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<tr>
<td>Feb 25</td>
<td>Continue UE</td>
</tr>
<tr>
<td>Mar  4</td>
<td>LE Patterns, Pelvic, Lower Trunk</td>
</tr>
<tr>
<td>Mar 11</td>
<td>Continue LE, Indications/Contraindications</td>
</tr>
<tr>
<td></td>
<td>Muscle stretching, Contract/relax, Hold/relax</td>
</tr>
<tr>
<td>Mar 18</td>
<td>Quiz, Case Examples, Developmental Sequence</td>
</tr>
<tr>
<td>April 1</td>
<td>Functional PNF Activities (No Fooling)</td>
</tr>
<tr>
<td>Apr  8</td>
<td>Functional PNF Activities</td>
</tr>
<tr>
<td>Apr 15</td>
<td>Functional PNF, Gait, Respiratory PNF</td>
</tr>
<tr>
<td></td>
<td>PNF with other Equip (balls, Pulleys, Theraband, etc)</td>
</tr>
<tr>
<td></td>
<td>Case Examples, Checkouts</td>
</tr>
<tr>
<td>Apr 22</td>
<td>Case Examples, Checkouts</td>
</tr>
<tr>
<td>Apr 29</td>
<td>Case Examples, Checkouts</td>
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</tbody>
</table>