COURSE SYLLABUS
for
PTHA 2409

Therapeutic Exercise

CATALOGUE DESCRIPTION
Concepts, principles, and application of techniques related to therapeutic exercise and functional training.

CREDIT
4

CONTACT HOURS
Lecture 3
Lab 4

PREREQUISITES
1. PTHA 1160, Clinical
2. PTHA 1431, Physical Agents
3. PTHA 2201, Data Collection
4. PTHA 2435, Rehabilitation Techniques

COREQUISITE
1. PTHA 1321, Clinical Pathophysiology

INSTRUCTOR
Renee M. Pruitt PT, MHA, DPT
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SEMESTER / LOCATION / TIME
Summer 2014
Lecture: M-TH 8:00 -11:00 B140
Labs: M-TH 11:30 – 2:30 B139 (Section 1) and B139 (Section 2)
½ Hour Lunch Break is included in lab hours

PURPOSE

This course is designed so that student physical therapist assistants (PTA’s) will learn to safely and effectively apply therapeutic exercise to increase strength, stability, endurance and/or range of motion, following a treatment plan determined by a physical therapist and appropriately document this treatment. In order to do this, they will need an understanding of the factors producing movement limitations in patients, the physiologic and therapeutic effects of exercise and principles of biomechanics; and the indications, contraindications and side/adverse effects of exercise for different therapeutic purposes across all stages of life. They are to learn specific exercise programs/protocols applicable for various conditions; and different styles, philosophies and theories for applying and teaching a therapeutic exercise program in different environments, with different equipment, for all ages of patients.

COURSE OUTCOMES

1. Describe the principles of therapeutic exercise
2. Demonstrate techniques of therapeutic exercise and functional training
3. Formulate a rationale for the application and modification of therapeutic exercise
4. Demonstrate patient education
5. Communicate outcomes of the therapeutic exercise intervention.

COURSE OBJECTIVES

On completion of this course, student PTA’s will be able to:
1. Describe the disablement process and models of disablement.
2. Describe and discuss the physiological effects of exercise on the muscular, cardiovascular-pulmonary neurologic and other systems of the human body for all ages.
3. Relate the implications of pathology effecting these systems for the management of movement disorders.
4. Describe and demonstrate the theory and the principles for using exercise, in any age group, to increase/improve:
   a) strength
   b) aerobic conditioning
   c) control
   d) balance and coordination
   e) range of motion
   f) pain
5. Describe and discuss methods used to apply therapeutic exercise:
   a) isometric vs. concentric vs. eccentric
b) isotonic vs. isokinetic

c) loaded vs. unloaded

d) cardinal plane vs. patterns of movement vs. functional activity/simulation

6. Identify by name and appearance equipment used to apply therapeutic exercise and discuss the uses and applications of each:

a) weights

b) suspension

c) elastic tubing/bands

d) pulleys

e) water

f) computer-controlled equipment

g) treadmills & cycles

7. Demonstrate ability to apply exercise to different parts of the body using:

a) gravity

b) weights, pulleys, elastic or other resistance exercise equipment

c) manual resistance

d) PNF patterns

e) water

f) balls

8. Describe normal postural alignment, normal muscle tension and joint movement.

9. Identify and record postural, muscular and joint abnormalities using the SOAP note method of documentation.

10. When presented with physical therapy program goals to correct an impairment, functional limitation or disability, develop and instruct an appropriate exercise program.

11. Discuss the theory for patterns of movement and facilitation techniques for enhancing or reducing muscle activation, and for elongating tissue.

12. Identify and describe basic PNF patterns for the upper and lower limbs, the head, neck & trunk.

13. Demonstrate ability to apply basic PNF patterns of movement to the upper and lower limbs, the head, neck & trunk.


15. When presented with a clinical scenario and a physical therapy treatment plan, demonstrate ability to instruct an exercise program:

a) an individual

b) a class / group of individuals

16. When presented with a clinical scenario and a physical therapy treatment plan, demonstrate ability to teach a home exercise program, with use of computer-generated diagrams to:

a) an individual

b) a class / group of individuals

17. Appropriately document a therapeutic exercise treatment/simulation.

18. Through review of current literature on the role of therapeutic exercise in the prevention &/or management of a given type of disorder, either (1) write a paper or (2) present an educational display appropriate for the general public.

19. Demonstrate/perform and apply physical activity exercise plans that related to components of personal fitness and wellness for prevention of injury/disease and maintenance of a healthy lifestyle.

REQUIRED MATERIALS


**RECOMMENDED MATERIALS**

• Pruitt, R. *Therapeutic Exercise Home Programs.*

**OTHER RESOURCE MATERIALS**

Library resources
Physical Therapy (journal)
Lab video tapes
Internet sites
Other items on reserve in the library

**METHODS OF INSTRUCTION**

A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, and panels, conferencing, performances and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

**ASSESSMENT OF LEARNER OUTCOMES AND OBJECTIVES**

Assessment methods include, but may not be limited to: written examinations, lab practicals, skill checklists, observation of skills and professional behavior, documentation assignments, evidence based journal club, research papers, oral presentations, PTA MACS, self-assessment surveys, and clinical educators rating. Plagiarism of any assignment will result in a 0% on that assignment as well as be addressed via the program integrity policy as outlined in the student handbook.

**EVALUATION**

*Testing*

1) Written Quizzes (10X10) 100
2) Mid-term exam (comprehensive) 100
3) SOAP notes x 10 50
4) Exercise Class 50
5) Home Program 50
7) Practical Exams x 3 150
8) Final Exam (comprehensive) 100

**TOTAL** 600

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• A passing score (greater than 75%) must be obtained in both the didactic and practical components in order to pass this class.

• In order to pass the lab portion of the class, the critical safety skills must be mastered on all practicals and check-offs. If a student does not meet one critical skill for that lab exam or check off with at least a 75%, the student is required to retake that exam to obtain a maximum score of 75%. If on this second attempt the skill is still not mastered, the student will be required to remediate. If on the third attempt the skill is still not mastered for a maximum score of 75%, the student will receive a 0 for that exam. Proficiency must be attained in the laboratory within 3 attempts. The student is not allowed to proceed until all critical skills are satisfactorily checked off. If a student cannot complete a critical skill, they fail the course, must reapply to the program and, if accepted, must repeat the course. This process verifies a student’s readiness to continue through the program and for clinicals.

Grades:

90% - 100%  (540-600)  A
80% - 89%  (480-539)  B
75% - 79%  (450-479)  C
less than 75%  (<449)  F

OTHER COURSE/CLASSROOM POLICIES

OPEN LAB

You will be required to attend an “open lab” 2 hours EVERY week to practice lab skills. This will be facilitated by a lab coordinator. The coordinator is there to facilitate, NOT tutor. They are to help teach the students how to find the answers, either by asking another student in the study group, looking it up in the textbook or class/ lab notes. The coordinator will organize study sessions outside of class time for the students to attend. You must attend these hours in order to be eligible to successfully complete the appropriate check offs prior to each lab exam. If the required hours are not attended, you will be unable to take the practical exam, and will therefore receive a 0 (zero) for that exam.

LAB ATTIRE

Appropriate dress is to be worn/available for all labs, as indicated below.

Males:  Non-denim shorts with elastic waistband, no longer than mid-thigh.
Females:  Non-denim shorts with elastic waistband, no longer than mid-thigh; bikini / sport bra or halter-top (NOTE: for labs for back massage, a bra that opens in the back should be worn).
Both:  Lycra bike or similar under shorts may be worn, but they should not extend beyond mid thigh. Clothing is likely to be exposed to water, gels, oils and lotions. Keep this in mind
when selecting your lab clothing. NOTE: for labs and practice with hydrotherapy (whirlpool), swimming attire should be worn.

CONTRAINDICATIONS AND POTENTIAL HAZARDS ASSOCIATED WITH PROCEDURES APPLIED IN THIS COURSE

Within the course, students will be asked to apply and to receive various physical therapy treatment modalities. The list below is of contraindications and potential hazards which are associated with procedures applied in the course. The students are asked to provide informed consent to participate in the course and it is the student’s responsibility to inform the instructor of any contraindications or circumstances which may limit their full participation in these procedures both now and in the future.

Contraindications/Precautions
- Skin Disorders
- Low Back Disorders
- Cardiac Conditions
- Respiratory Conditions

SERVICE LEARNING

Each semester during the PTA program, the student will select a community/human services organization or activity in which to volunteer a minimum of 4-6 hours. This course has been selected by the PTA program to monitor and facilitate service learning for the Fall semester. Students will be expected to complete 4-6 hours of service learning and record a personal reflections within Angel.

EVIDENCE BASED JOURNAL CLUB

Each semester during the PTA program, the students will participate in a journal club. This course has been selected by the PTA program to monitor and facilitate the evidence based journal club for the Fall semester.

ATTENDANCE EXPECTATIONS

- To do well in this course, you must attend regularly and keep up with assignments. You cannot make a satisfactory grade without studying. Since this is a 10-week semester, the course progresses very quickly -- you must discipline yourself to keep up and not fall behind. As this course uses discussion and the ability to work responsibly in a group, participation in the class discussions and activities is essential to successful completion.
- The instructor has the option to drop a student from the class after the student has accumulated absences of two or more classes, particularly if these are not excused. All absences should be explained to the instructor via phone or internet e-mail.
The instructor will begin each class by recording the students present. If you come in 15 minutes after class has begun, you will be marked absent unless you see me after class and let me know you were there. In addition, the class may begin with
the written quiz reviewing the last sessions work. If you are late, you will receive a zero on the daily written quiz.

- All travel to field trips will be on your own. You are expected to dress in business attire or scrubs for all classes held off campus.

NO LONGER ATTENDING CLASS DOES NOT CONSTITUTE WITHDRAWAL FROM THIS CLASS, NOR DOES A STUDENT’S NOTIFICATION TO THE INSTRUCTOR THAT THE STUDENT WISHES TO BE DROPPED. FAILURE OF A STUDENT TO FILL OUT A “SCHEDULE CHANGE FORM” TO OFFICIALLY DROP THIS CLASS MAY RESULT IN A GRADE OF “F.”

THE LAST DAY TO DROP THIS CLASS AND RECEIVE “W” IS ___________. AFTER THIS DATE, NO WITHDRAWALS WILL BE ISSUED.

LATE TESTS AND ASSIGNMENTS

- The semester moves fast. If you have to miss class on the day of a test, you must notify me before the test. If you have contacted me regarding your absence, and have a valid reason, you may take the test in the Testing Center (ground floor, ELC) within a time limit we will agree upon. If you do not contact me before the test you missed, I will consider your absence unexcused, and you will get a zero for that test. If you don't take the test within the agreed time limit, you will also receive a zero. Please note that if you miss the final exam, there may not be time for you to have the option of taking it late.
- No credit will be given for assigned work handed in after the due date. Exceptions may be made for serious illness/hospitalization or other tragedy. In these circumstances, written verification will be required.

IF YOU ARE HAVING DIFFICULTY

- Please contact me. My goal is for you to succeed.
- You will have to do the work to meet the standards of the course, but there are many college resources available to help you do this -- but you need let me know if you need help.
- My office phone number and e-mail address are listed on this syllabus.
- Also, if you have any special academic needs, please talk with me after the first class and give me a copy of your documentation.

CLASSROOM BEHAVIOR

- While active participation in class activities is encouraged, behavior that is disruptive and interferes with the ability of others to benefit from the education will not be tolerated.
- Students displaying disruptive behavior in a class will be asked to leave that class, and this will be considered as partial attendance.
- Repeated incidents of disruptive behavior will result in dismissal of the student from the course.
- Cell phones are to be turned off in the classroom. Two breaks will be given throughout the lecture and lab period. Please use this time to communicate via cell phone.
• Lab coats and/OR clinical attire are required for all lab practicals. If you are not dressed to impress, you will receive a zero on the practical.

CHILDREN

• Children are not allowed in the classroom or lab. This is for the child’s safety due to the nature of the practical work which will be performed in the classroom and lab.
• Children may not be left unattended in the college.

ADA Statement

Lonestar College System is dedicated to providing the least restrictive learning environment for all students. The college district promotes equity in academic access through the implementation of reasonable accommodations as required by the Vocational Rehabilitation Act of 1973, Title V, Section 504 and the Americans with Disabilities Act of 1990 (ADA) which will enable students with disabilities to participate in and benefit from all post-secondary educational programs and activities. If you require reasonable accommodations because of a physical, mental, or learning disability, please notify the instructor of this course within the first 2 weeks of the term.

Emergency management

Lone Star College System (LSCS) is committed to maintaining the safety of the students, faculty, staff, and guests while visiting any of our campuses. See http://www.lonestar.edu/oem for details. Register at http://www.lonestar.edu/12803.htm to receive emergency notifications. In the event of an emergency contact LSCS Police at (281) 290-5911 or X5911.

Academic Integrity:

The following was taken directly from The Lone Star Catalog and is consistent with the program student handbook:

“The Lone Star College System upholds the core values of learning: honesty, respect, fairness, and accountability. The system promotes the importance of personal and academic honesty. The system embraces the belief that all learners – students, faculty, staff and administrators – will act with integrity and honesty and must produce their own work and give appropriate credit to the work of others. Fabrication of sources, cheating, or unauthorized collaboration is not permitted on any work submitted within the system.

The consequences for academic dishonesty are determined by the professor, or the professor and academic dean, or the professor and chief student services officer and can include but are not limited to:

1. Having additional class requirements imposed,
2. Receiving a grade of zero or “F” for an exam or assignment,
3. Receiving a grade of “F” for the course,
4. Being withdrawn from the course or program,
5. Being expelled from the college system.
## PROPOSED CALENDAR

<table>
<thead>
<tr>
<th>Week #</th>
<th>Dates</th>
<th>Topics</th>
<th>Text Components</th>
<th>Activities</th>
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</table>
| 1      | June 24      | **Introduction**  
Principles and terminology of exercise  
Rehabilitation continuum  
Physiological effects of exercise  
Wellness and Fitness  
**Module 1: General Concepts and Methods**  
Range of Motion, Stretching and Flexibility  
**Quiz #1**  
Resistive Exercise: Isometric/Isotonic/Isokinetic  
**SOAP Note Due #1**  
**Quiz #2**  
Fitness Case Study  
No Class-Class of 2015 Interviews | HB: 1,2,3,4, 5  
(p. 61-65)  
Appendix  
1,2,3  
BS: 1,2 | HB: Q, Bod Pod  
President’s Physical Fitness  
BS: Practice Exam, KC: Case Study 1 |
|        | June 25      | **Module 1: General Concepts and Methods**  
Range of Motion, Stretching and Flexibility  
**Quiz #1** | HB: 7  
BS 3, 5 | HB: 5  
BS: 6 |
|        | June 26      | **Module 1: General Concepts and Methods**  
Range of Motion, Stretching and Flexibility  
**Quiz #1**  
Resistive Exercise: Isometric/Isotonic/Isokinetic  
**SOAP Note Due #1**  
**Quiz #2** | HB: 7  
BS 3, 5 | HB: 5  
BS: 6 |
|        | June 27      | **Module 1: General Concepts and Methods**  
Range of Motion, Stretching and Flexibility  
**Quiz #1**  
Resistive Exercise: Isometric/Isotonic/Isokinetic  
**SOAP Note Due #1**  
**Quiz #2**  
Fitness Case Study  
No Class-Class of 2015 Interviews | HB: 7  
BS 3, 5 | HB: 5  
BS: 6 |
<table>
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<tr>
<th>Week 2</th>
<th>July 1</th>
<th>Impaired Aerobic Capacity, Pulmonary and Endurance Training</th>
<th>Quiz #3</th>
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<td>July 2</td>
<td>Posture Training and Dosing</td>
<td>Quiz #4</td>
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<td>July 3</td>
<td>Holiday</td>
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<td>July 4</td>
<td>Holiday</td>
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|           | HB: 6  | BS: 13          | KC: 25 |
|           |        |                 |        |
|           |        |                 | HB: 9  |

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<tr>
<th>Week 3</th>
<th>July 8</th>
<th>Module 2: Applications of Ther. Ex.</th>
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<td><strong>Practical Exam 1</strong></td>
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<td>Balance, Coordination, Proprioception, Neuromuscular Training</td>
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<td><strong>Guest Lecture: Joint and Soft Tissue Mobilization-Confirmed</strong> Lorri Simon PT, OCS</td>
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<td>SOAP Note Due #2 Quiz #5</td>
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<td>July 9</td>
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<td>Open and Closed Kinetic Chain Training/Plyometrics/Sportsmetrics</td>
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<td>HB: 7,11 BS: 4 KC: 5</td>
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<td>July 10</td>
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<td><strong>SOAP Note Due #3 Quiz #6</strong></td>
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<td>Field Trip: Aquatic Therapy- Unconfirmed HealthSouth Rehabilitation Hospital I-45 Spring, TX 77380 281-364-3453 1:00-4:00</td>
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<td>HB: 14,16 BS: 7, 9, 10,17</td>
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<td>July 11</td>
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<td>Proprioceptive Neuromuscular Facilitation and Neurological Progression of Therapeutic Exercise</td>
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<td><strong>Guest Lecturer: An incomplete quadriplegic perspective-Unconfirmed</strong> Kyle</td>
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<td><strong>SOAP Note Due #4</strong></td>
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<td>HB: 15 BS: 8, 18</td>
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| Week 4 | July 15 | **Mid-term Exam (comprehensive)**  
Home exercise Programs Due  
SOAP Note Due #5 |
|------|--------|----------------------------------|
|      | July 16 | Pediatric and Geriatric Perspectives  
**Special Project:**  
Designing a Geriatric Fitness Class  
**Guest Lecturer:** Pediatric Exercise-Confirmed  
Colleen Spencer  
SOAP Note Due #6  
Quiz #7 |
|      | July 17 | **Practical Exam 2** |
|      | July 18 | **Module 3: Exercise Intervention by Body Region**  
The Hip, Knee and Ankle  
Case Study  
Quiz #8  
SOAP Note Due #7  
**Guest Lecture:** Women’s Health and Obstetrics-Confirmed  
Michelle Howze  
Select Physical Therapy – Humble  
12:00-2:00 |
|      |        | **HB:** 12  
**BS:** 19  
**HB:** 19, 20, 21  
**BS:** 13, 16, 20 |
### Week 5  
**July 22**  
The Shoulder, Elbow, Wrist and Hand  
**Quiz #9**  
**SOAP Note Due #8**  
Surgical Intervention Management  

**Guest Lecture: Orthopedic Surgeries-Unconfirmed**  
Dr. Brandt Lipscomb  
Peripheral Joint and Soft Tissue Mobilization  

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<thead>
<tr>
<th>July 23</th>
<th>The Spine and Core</th>
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<tr>
<td><strong>Quiz #10</strong></td>
<td>SOAP Note Due #9</td>
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<tr>
<td><strong>July 24</strong></td>
<td>Cervical and Thoracic Spine</td>
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<td><strong>Field Trip  Industrial Rehabilitation-Confirmed</strong></td>
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Karen Ray, PT  
Health South - Vantage  
15311 Vantage Parkway, Suite 130  
281-442-6861  
12:30-2:00 |  
| **SOAP Note Due #10** | **Group Exercise Projects** |  
| **July 25** | Research Studies  
Orientation for New Class |  

### Week 6  
**July 29**  
Case Studies  

**July 30**  
Review  

**Practical 3**  

**July 31**  
**Final Comprehensive Exam**  
Class of 2015 Orientation – Lunch Provided