

# COURSE SYLLABUS

PTHA 1431

<b>Physical Agents</b>
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PHYSICAL THERAPIST ASSISTANT PROGRAM

HEALTH OCCUPATIONS DIVISION

LEVELLAND CAMPUS

SOUTH PLAINS COLLEGE

PTHA 1431  
Course Syllabus

COURSE TITLE: PHYSICAL AGENTS  
COURSE CREDIT: 4  
CONTACT HOURS: 3 LECTURE, 3 LAB

INSTRUCTOR: Kevin Beough, PT, MPT  
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**OFFICE HOURS:** *By Appointment*

SOUTH PLAINS COLLEGE IMPROVES EACH STUDENT'S LIFE

## **I. GENERAL COURSE INFORMATION**

Prerequisites: A&P I &II (or equivalent), The Profession of Physical Therapy (PTHA 1301), Functional Anatomy (PTHA 1413), Basic Patient Care (PTHA 1405), Pathophysiology (PTHA 1321), Therapeutic Exercise (PTHA 2409)

### **COMMON STUDENT LEARNING OUTCOMES**

**Upon successful completion of South Plains College PTA degree, the student will be able to:**

**KNOW (K)** - Students will actively and independently acquire, apply and adapt skills and knowledge to develop expertise and a broader understanding of the world as lifelong learners.

**COMPREHEND (C)** - Students will think analytically and creatively to explore ideas, make connections, draw conclusions, and solve problems.

**APPLY (A)** - Students will exchange ideas and information with clarity and originality in multiple contexts, act purposefully, reflectively, and respectfully in diverse and complex environment.

**EVALUATE (E)** - Students will demonstrate integrated learning from different areas and solve problems with creative thinking.

### **COURSE DESCRIPTION:**

The student will learn application of biophysical principles, physiological effects, intervention efficacy and application of physical agents, and selected data collection techniques.

**This is a Lecture/Lab course**

### **GENERAL LEARNING OBJECTIVES**

**Upon successful completion of the course, following a given plan of care and under the supervision of the PT, the student will be able to:**

1. Appropriately apply the principles of massage.
2. Appropriately apply the principles of airway clearance techniques.
3. Appropriately apply the principles of cold packs.
4. Appropriately apply the principles of ice massage.
5. Appropriately apply the principles of contrast baths.
6. Appropriately apply the principles of hot packs.
7. Appropriately apply the principles of paraffin baths.
8. Appropriately apply the principles of ultrasound.
9. Appropriately apply the principles of phonophoresis.
10. Appropriately explain the principles of infrared.
11. Appropriately apply the principles of ultraviolet.
12. Appropriately explain the principles of diathermy.
13. Appropriately apply the principles of low-level LASER therapy.
14. Appropriately apply the principles of traction.
15. Appropriately apply the principles of electrotherapy.
16. Appropriately explain the principles of the safe use of hydrotherapy.
17. Appropriately apply the principles of intermittent compression.
18. Collect outcome data required to determine the patient's response(s) to the intervention applied as related to course content.
19. Apply generic abilities related to course content.
20. Describe basic concepts related to the *APTA Guide to Physical Therapist Practice*.

### **SPECIFIC LEARNING OBJECTIVES**

1. Appropriately apply the principles of massage.
  - a. Explain the indications, contraindications, precautions, and physiological response related to massage techniques such as effleurage, petrissage, and cross friction techniques.
  - b. Demonstrate competency in the application of massage techniques to meet requirements outlined in the skill check and lab exam.
2. Appropriately apply the principles of airway clearance techniques.
  - a. Explain the indications, contraindications, precautions, and physiological response related to airway clearance techniques including tapotement and vibration.
  - b. Demonstrate competency in the application of airway clearance techniques to meet requirements outlined in the skill check and lab exam.
  - c. Explain postural drainage positions specific to each lobe of both lungs.
  - d. Explain breathing strategies (such as maximum ventilation and expiration, breathing patterns during exercise, and pursed lip breathing) as related to mock patient case.
3. Appropriately apply the principles of cold packs.
  - a. Explain the indications, contraindications, precautions, and physiological response related to cold packs.
  - b. Demonstrate competency in the application of cold packs to meet requirements outlined in the skill check and lab exam.

**SPECIFIC LEARNING OBJECTIVES, cont.**

4. Appropriately apply the principles of ice massage.
  - a. Explain the indications, contraindications, precautions, and physiological response related to ice massage.
  - b. Demonstrate competency in the application of ice massage to meet requirements outlined in the skill check and lab exam.
5. Appropriately apply the principles of contrast bath.
  - a. Explain the indications, contraindications, precautions, and physiological response related to contrast bath.
  - b. Demonstrate competency in the application of contrast bath to meet requirements outlined in the skill check and lab exam.
6. Appropriately apply the principles of hot packs.
  - a. Explain the indications, contraindications, precautions, and physiological response related to hot packs.
  - b. Demonstrate competency in the application of hot packs to meet requirements outlined in the skill check and lab exam.
7. Appropriately apply the principles of paraffin baths.
  - a. Explain the indications, contraindications, precautions, and physiological response related to paraffin baths.
  - b. Demonstrate competency in the application of paraffin to meet requirements outlined in the skill check and lab exam.
8. Appropriately apply the principles of ultrasound.
  - a. Explain the indications, contraindications, precautions, and physiological response related to ultrasound.
  - b. Demonstrate competency in the application of ultrasound to meet requirements outlined in the skill check and lab exam.
9. Appropriately apply the principles of phonophoresis.
  - a. Explain the indications, contraindications, precautions, and physiological response related to phonophoresis.
  - b. Demonstrate competency in the application of phonophoresis to meet requirements outlined in the skill check and lab exam.
10. Appropriately explain the principles of infrared.
  - a. Explain the indications, contraindications, precautions, and physiological response related to infrared.
  - b. Explain the application of infrared.
11. Appropriately apply the principles of ultraviolet.
  - a. Explain the indications, contraindications, precautions, and physiological response related to ultraviolet.
  - b. Demonstrate competency in the application of ultraviolet to meet requirements outlined in the skill check and lab exam.
12. Appropriately explain the principles of diathermy.
  - a. Explain the indications, contraindications, precautions, and physiological response related to diathermy.
  - b. Explain the application of diathermy.

**SPECIFIC LEARNING OBJECTIVES, cont.**

13. Appropriately apply the principles of traction.
  - a. Explain the indications, contraindications, precautions, and physiological response related to manual cervical traction, mechanical cervical traction, and mechanical lumbar traction.
  - b. Demonstrate competency in the application of traction techniques to meet requirements outlined in the skill check and lab exam.
14. Appropriately apply the principles of electrotherapy.
  - a. Explain the indications, contraindications, precautions, and physiological response related to electrotherapy techniques such as IFC, Premodulation, TENS, Combo, NMES, Russian, Biphasic, Iontophoresis, HVES, and Biofeedback.
  - b. Demonstrate competency in the application of electrotherapy techniques to meet requirements outlined in the skill check and lab exam.
15. Appropriately apply the principles of the safe use of hydrotherapy.
  - a. Educate mock patients on the safe use of hydrotherapy and aquatic therapy.
  - b. Explain the indications, contraindications, precautions, and physiological response related to hydrotherapy.
  - c. Demonstrate competency in the application of hydrotherapy techniques to meet the requirements outlined in the skill check and lab exam.
16. Appropriately apply the principles of intermittent compression.
  - a. Explain the indications, contraindications, precautions, and physiological response related to intermittent compression.
  - b. Demonstrate competency in the application of intermittent compression to meet requirements outlined in the skill check and lab exam.
17. Collect outcome data required to determine the patient's response(s) to the intervention applied as related to course content.
  - a. Identify equipment and resources necessary for discharge.
  - b. Assesses cognition and attention related to safe use of modalities.
  - c. Provide input to the supervising physical therapist about outcomes.
18. Apply generic abilities related to course content. (*Generic Abilities adapted from the Physical Therapy Program, University of Wisconsin-Madison, May et al. Journal of Physical Therapy Education, 9:1, Spring, 1995.*)
  - a. *Commitment to Learning* – Demonstrate the ability to self-assess, self-correct, and self-direct. Identify needs and sources of learning. Seek new knowledge and understanding.
  - b. *Interpersonal Skills* – Demonstrate the ability to interact effectively with patients, families, colleagues, other health care professionals, and the community. Demonstrate the ability to effectively deal with cultural and ethnic diversity issues.
  - c. *Communication Skills* – Demonstrate the ability to communicate effectively (i.e., speaking, body language, reading, writing, and listening) for a varied audiences and purposes.
  - d. *Effective Use of Time* – Demonstrate the ability to obtain maximum benefit from a minimum investment of time and resources.
  - e. *Use of Constructive Feedback* – Demonstrate the ability to identify sources and seek out feedback and to effectively use and provide feedback for improving personal interaction.

### **SPECIFIC LEARNING OBJECTIVES, cont.**

- f. *Problem-Solving* – Demonstrate the ability to recognize and define problems, analyze data, develop and implement solutions, and evaluate outcomes.
  - g. *Professionalism* – Demonstrate the ability to exhibit appropriate professional conduct and to represent the profession effectively.
  - h. *Responsibility* – Demonstrate the ability to fulfill commitments and to be accountable for actions and outcomes.
  - i. *Critical Thinking* – Demonstrate the ability to question logically; to recognize and differentiate facts, illusions, assumptions, and hidden assumptions; and to distinguish the relevant from the irrelevant.
  - j. *Stress Management* – Demonstrate the ability to identify sources of stress and to develop effective coping behaviors.
19. Use a SOAP note format to document interventions provided and data gathered related to those interventions.
20. Describe basic concepts related to the APTA *Guide to Physical Therapist Practice*.
- a. Integrate basic concepts presented in the APTA *Guide to Physical Therapist Practice* related to course content.
  - b. Identify the parameters of the scope of practice of the PTA related to course content.

### **ASSESSMENT TECHNIQUES USED BUT NOT LIMITED TO:**

Quizzes  
Lab Skills Check-Offs  
Lecture Exams  
Midterm and Final Lab Exams

### **COURSE GRADING**

Students will successfully complete clinical course PTHA 1431 with a grade of 75% or higher. Students who fall below passing requirements will not be allowed to continue in the PTA program.

A= 90-100%

B = 80-89%

C = 75-79%

**BELOW 77% at midterm of the semester will result in the development of a learning contract and the student being responsible for meeting established goals.**

**An “INCOMPLETE” will be given for failure to complete assigned open lab practice, failure to complete required lab exam preparation, and/or failure to complete lab exam retake opportunities. Students who receive an “INCOMPLETE” for this course will not be allowed to continue in the PTA program.**

**COURSE GRADING, cont.**

Attendance & Participation	10%
Lecture/Lab Quizzes	20%
Lecture/Lab Exams	70%
Lecture Exams worth 35%	
Lab Exams worth 35%	
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	100%

**ACADEMIC INTEGRITY**

It is the aim of the faculty of South Plains College to foster a spirit of complete honesty and a high standard of integrity. The attempt of any student to present as his or her own work which he or she has not honestly performed is regarded by the faculty and administration as a most serious offense and renders the offender liable to serious consequences, possibly suspension.

**ACCOMMODATION STATEMENT**

Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations in this class should notify the Disability Services Office early in the semester so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodations must provide acceptable documentation of his/her disability to the Disability Services Office. For more information, call or visit the Disability Services Office at Levelland Student Health & Wellness Center 806-716-2577, Reese Center (also covers ATC) Building 8: 806-716-4675, Plainview Center Main Office: 806-716-4302 or 806-296-9611, or the Health and Wellness main number at 806-716-2529.

**DIVERSITY STATEMENT**

In this class, the teacher will establish and support an environment that values and nurtures individual and group differences and encourages engagement and interaction. Understanding and respecting multiple experiences and perspectives will serve to challenge and stimulate all of us to learn about others, about the larger world and about ourselves. By promoting diversity and intellectual exchange, we will not only mirror society as it is, but also model society as it should and can be.

**NON-CONFIDENTIALITY STATEMENT**

As a faculty member, I am deeply invested in the well-being of each student I teach. I am here to assist you with your work in this course. If you come to me with other non-course-related concerns, I will do my best to help.

It is important for you to know that all faculty members are mandated reporters of any incidents of sexual misconduct. That means that I cannot keep information about sexual misconduct confidential if you share that information with me. Dr. Lynne Cleavinger, the Director of Health & Wellness, can advise you confidentially as can any counselor in the Health & Wellness Center. They can also help you access other resources on campus and in the local community. You can reach Dr. Cleavinger at 716-2563 or [lcleavinger@southplainscollege.edu](mailto:lcleavinger@southplainscollege.edu) or go by the Health and Wellness Center. You can schedule an appointment with a counselor by calling 716-2529.

### **NON-DISCRIMINATION AND ANTI-HARASSMENT STATEMENT**

The South Plains College Physical Therapist Assistant Program is committed to a learning environment in which all individuals are treated with respect and dignity. Each individual has the right to learn in an atmosphere that prohibits discriminatory practices, including harassment. Therefore, the Program expects that all relationships among persons on campus and in the clinical environment will be business-like and free of bias, prejudice and harassment.

It is the expectation of the Program that Program faculty, clinical faculty, and students will conduct themselves without discrimination or harassment on the basis of race, color, national origin, religion, sex (with or without sexual conduct), age, disability, alienage or citizenship status, marital status, creed, genetic predisposition or carrier status, sexual orientation or any other characteristic protected by law. The Program prohibits and will not tolerate any such discrimination or harassment.

### **B. SPECIFIC COURSE/INSTRUCTOR REQUIREMENTS**

1. Dress Code: Students are expected to follow the dress code as stated in the PTA Program Student Handbook. You will need appropriate attire for lab.
2. Due Date: A Course Assignments Calendar with a description of assignments due and due dates can be found on Blackboard. For each day an assignment is late, 10% of original total points possible will be deducted; therefore, by the 3<sup>rd</sup> day late, the assignment will receive a failing grade.
3. Behavior : Students are enrolled in a professional program and are expected to demonstrate professional behaviors such as respect, preparation for class, and dedication to learning.
  - 3.1 **Preparation for lecture/discussion/activity** will be determined by submission of topic's reading quiz prior to class. The student will be permitted to join the lecture/discussion/activity after completing the pertinent reading quiz. An absence/tardy will be recorded if this requirement results in an absence or late arrival.
  - 3.2 **Preparation for lab** will be determined by submission of topic's viewing quiz prior to class. The student will be permitted to join the lab after completing the pertinent viewing quiz. An absence/tardy will be recorded if this requirement results in an absence or late arrival.
  - 3.3 **Cell phone use** in class/lab will not be tolerated. If a phone sounds during class/lab or a student is found to be conducting non-class/lab-related activities, the student will be asked to leave class/lab and receive one unexcused absence for the first incident. (see Absence Policy below)

**SPECIFIC COURSE/INSTRUCTOR REQUIREMENTS, cont.**

4. Required Materials:

Students must have internet access, an internet browser, and MS Office. If you do not have a computer and internet access at home, you can access South Plains College's Computer Lab.

4.1 Blackboard:

Course information and announcements, lecture/lab materials, assignments, quizzes, and tests will be available on Blackboard. It is the expectation that students will log on ("check") Blackboard at a MINIMUM of three times a week. Jessica Tucker (806-716-2180 or [jetucker@southplainscollege.edu](mailto:jetucker@southplainscollege.edu)) will be your Tech Support contact for Blackboard.

4.2 Required Textbook : Behrens and Beinert's Physical Agents Theory and Practice, ISBN 978-0-8036-3816-7

4.3 Recommended Textbook : Hayes' Manual for Physical Agents, ISBN 978-0-1360-7215-7

5. Lab Attendance/Participation

5.1 Lab Participation Expectations

1. Lab sessions are intended to provide time for **actual practice** of techniques - a majority of time spent in lab should be **performing** skills (not talking about them, or looking at information about them)
2. It is not appropriate to use lab sessions to review material or read/look up information - you should use lab time only to do things that you cannot do outside of lab

5.2 Open Lab Practice

1. You will be assigned open lab practice requirements based on your skill check-off performances, to be performed outside of and in addition to scheduled lab sessions, through development of a learning contract
2. You will log the time spent **performing** open lab practice to document fulfillment of this requirement

6. Lab Exams

6.1 Required Preparation

1. All lab skills check-offs from units to be tested must be completed prior to participation in lab exams.
2. Performance Improvement assignment must be completed prior to participation in lab exams.

6.2 Lab Exam Procedure

1. Each of the two lab exams (Midterm and Final) will cover all material presented in this class (PTHA 1431) and Rehabilitation Techniques (PTHA 2435).
2. You will prepare, perform, and document a treatment session or sessions in a Video Room based on given patient scenario(s)

## **SPECIFIC COURSE/INSTRUCTOR REQUIREMENTS, cont.**

### **Lab Exams, cont.**

3. You will serve as a patient(s) for a testing classmate(s), and will be graded on your ability to appropriately mimic the expected physical, cognitive, communication, and emotional characteristics indicated by the given patient scenario(s)
- 6.3 Grading of Lab Exams
1. Your grade will be determined by video analysis and analysis of your submitted preparation and documentation - this will be recorded on the grading rubric
  2. One retake opportunity will be offered for an initial failing effort (from critical safety incident(s) or from an overall score of less than 75%) - a successful retake will result in a maximum score of a 75%.

## **ATTENDANCE**

- A. **ABSENCES** : Attendance is mandatory and there are no excused absences. Should an absence occur, any missed assignments, exams, or other activities must be completed and arrangements must be made with course instructor to turn in work. If a student is absent for more than 5 class days, then that student will be withdrawn from the course. **\*Students MUST notify PTA faculty of absence prior to classtime.**
- B. **TARDIES** : Three tardies count as one absence.  
Refer to the PTA Program Student Handbook for additional explanation of attendance policies.

## **PROFESSIONAL CONDUCT**

Students are expected to follow the ethics and rules of professional conduct as outlined in the PTA Program Student Handbook. Unprofessional conduct on the part of a student as outlined in the PTA Program Student Handbook will result in dismissal from the PTA program.

### **Campus Concealed Carry**

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in South Plains College buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and South Plains College policy, license holders may not carry a concealed handgun in restricted locations. For a list of locations, please refer to the SPC policy at:

[http://www.southplainscollege.edu/human\\_resources/policy\\_procedure/hhc.php](http://www.southplainscollege.edu/human_resources/policy_procedure/hhc.php)

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all South Plains College campuses. Report violations to the College Police Department at 806-716-2396 or 9-1-1.

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**You may not apply what you are learning to the general public. You are a student PTA and are learning physical therapy techniques. You will be practicing these skills on each other when you are in lab under the course instructor's supervision. If you are presently working in a clinic you cannot practice these skills on patients. Once you have passed the class, you still cannot practice the acquired skills in a clinic. You will only be permitted to apply these skills to the general public under a clinical instructor's supervision.**