

PTHA 1531 Physical Agents

Course Syllabus: Spring 2017



“Northeast Texas Community College exists to provide responsible, exemplary learning opportunities.”

Dr. Nancy Wilson, PT

Office: UHS #105

Phone: 903-434-8323

Email: nwilson@ntcc.edu

Office Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Online
	1:00-4:00	9:00-11:00	1:00-4:00	9:00-11:00	TBD	TBD

The information contained in this syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.

Catalog Course Description (include prerequisites): The study of the biophysical principles and application of therapeutic physical agents and therapeutic massage with specific emphasis on indications, contraindications, medical efficacy, and physiological effects. Pre-requisite: Anatomy & Physiology I, Functional Anatomy; Co-requisite: Anatomy & Physiology II

Required Textbook(s):

Physical Agents in Rehabilitation, Cameron, 4th Ed., Elsevier/Saunders 2013.

Publisher: Elsevier/Saunders 2013.

ISBN Number: 9781455728480

Recommended Reading(s):

- None

Student Learning Outcomes:

SPECIFIC OBJECTIVES

On a written examination with 75% proficiency, the student will be able to identify, describe, and assess the physiological effects, indications, contraindications, and precautions of, and principles associated with:

1. Therapeutic Massage
2. Superficial Heat Agents/ Cryotherapy
3. Hydrotherapy/ Aquatic therapy
4. Ultrasound/ Phonophoresis
5. Various electrical stimulation agents
6. Laser
7. Cervical and pelvic mechanical traction
8. Intermittent compression/volumetric measurement
9. Various electromagnetic radiation agents

10. Continuous passive motion machines

On a lab partner and/ or on a lab practical examination with 75% proficiency, the student will be able to demonstrate proficiently (accurate, safe and timely) the appropriation of:

1. Therapeutic Massage
2. Various thermal modalities Moist heat, Paraffin, Fluidotherapy, Hydrotherapy
3. Various cryotherapy modalities including ice massage, ice packs/ cold packs, cryocuff
4. Contrast baths
5. Ultrasound application
6. Phonophoresis
7. Shortwave diathermy
8. Various electrical stimulation modalities including portable NMS, TENS, Russian E-Stim, High volt pulsed current, and Interferential/Pre-modulated current
9. Cervical traction and Pelvic traction in supine and prone positions, iontophoresis
10. Intermittent compression/Continuous passive motion (CPM)

In addition, the student will:

11. Administer various questionnaires, graphs, behavior and visual analog scales for pain.
12. Rate student patient/lab partner's pain level before and after application of modalities
13. Given a Plan of Care, the student will be able to implement treatment using appropriate modalities
14. Measure sensory responses to light touch and heat/cold prior to the application of a modality
15. Construct accurate descriptions of the sensations associated with the application of a modality
16. Explain the main theories of pain control and select appropriate physical agent to relieve various types of pain.
17. Perform girth and volumetric assessments to determine limb volume and edema when using intermittent compression.
 - a. Demonstrate adequate monitoring of the patient's response before and after application of intermittent compression
18. Demonstrate safety before, during and after all labs/practical tests.
19. Perform proper body mechanics when applying or setting up modalities.
20. Explain/communicate to the student patient/lab partner the purpose of modality and application.
21. Describe basic principles of electricity to include sound, light, electricity, thermodynamics, electromagnetics, and electronic circuitry
22. Explain to the student patient/lab partner the precautions and physiological effects of modality application
23. Identify and demonstrate safety aspects/measures to be used in the application of all agents.
24. Perform adequate monitoring and differentiation of patient's physiological and integumentary responses/changes to treatment before, during and after application.
25. Screen for absent or altered sensation prior to application of specific agent.
26. Explain purpose of and apply percussion technique utilized with massage during appropriate phase of respiration.

27. Perform various data collection methods for recognizing changes in the direction and magnitude of patient's state of arousal, mentation, and cognition.
28. Recognize cognitive changes in patient status and inform the supervising physical therapist.
29. Recognize changes in patient status and inform the supervising physical therapist.
30. The student will be able to adjust interventions within the POC upon recognizing changes in patient status and consults with PT.
31. Write a SOAP note for each mock treatment performed.

SCANS Skills:

Scans addressed as follows: Information (acquires and evaluated information, organizes and maintains information, interprets and communicates information); Interpersonal (participates as a team member, teaches others, serves clients/customers, exercises leadership, negotiates to arrive at a decision); Technology (selects technology, applies technology, maintains & troubleshoots technology); Basic Skills (reading, writing, arithmetic, listening, speaking); Thinking Skills (decision making, problem solving, seeing things in the mind's eye, knowing how to learn, reasoning); Personal Qualities (responsibility, self-esteem, sociability, self-management, integrity/honesty).

Lectures & Discussions:

METHODS OF PRESENTATION

1. Lecture
2. Assigned Reading
3. Demonstrations
4. Multi Media
5. Role Playing
6. Laboratory Practice

OUTLINE OF CONTENT

1. Physiology of Physical Agents
2. Inflammation and Tissue Repair and Pain
3. Introduction to Thermal Agents
4. Hydrotherapy/ Aquatic Therapy
5. Massage
6. Mechanical and Home Cervical and Pelvic Traction
7. Intermittent Compression and Anthropometrics
8. Ultrasound/ Phonophoresis/Diathermy
9. Electromagnetic Agents – Laser and Light therapy
10. Ultraviolet Radiation
11. Introduction to Electrical Currents
12. Electrical Currents and Muscle Contraction
13. Electrical Current for Pain Control
14. Electrical Currents for Tissue Healing

Evaluation/Grading Policy:

Lecture Exams (4).....	50%
Mid-Term Lab Practical.....	10%

Class participation/Check-offs	5%
Comprehensive Lecture Final Exam	25%
Lab Practical Final.....	10%

GRADING

- A – 92-100
- B – 83-91
- C – 75-82
- D – 66-74
- F – 65 and below

A grade below 75 constitutes unsatisfactory understanding of the course content and/or unsatisfactory performance of skills.

Tests/Exams:

DATE	LECTURE	READING
January 18	Physiology of Physical Agents Inflammation and Tissue Repair & Pain Introduction to Thermal Agents	Ch. 1, 3 & 4
January 23	Introduction to Thermal Agents: Superficial Cold and Heat	Ch. 7 & 8
January 25	Heat and Cold Modalities Lab	
January 30	Heat and Cold Modalities Lab	
February 1	Hydrotherapy <i>Exam I available (Chs. 1, 3, 4, 7 & 8) Due 2/7 - Tuesday</i>	Ch. 17
February 6	Massage Lecture and Lab <i>*Feb. 7 - Exam I Due</i>	
February 8	Mechanical Traction & CPM Mechanical traction lab	Ch. 18
February 13	Mechanical Traction Lab cont'd	
February 15	Mechanical Traction Lab cont'd	
February 20	Intermittent Compression & Anthropometrics <i>Feb. 22 - Exam II available (Chs. 17, 18, 19, & Massage) Due 2/24 - Friday</i>	Ch. 19

February 22	Ultrasound & Phonophoresis, Diathermy Lecture *Feb. 24 - Exam II Due	Ch. 9 & 10
February 27	Ultrasound & Phonophoresis, Diathermy labs	
March 1	Ultrasound & Phonophoresis, Diathermy labs	
March 6	Electromagnetic Agents – Lasers and Light Ultraviolet Radiation	Ch. 15 Ch.16
March 8	Laser Lab Exam III available (Chs. 9, 10, 15, 16) Due 3/20 - Monday	
March 13-17	SPRING BREAK ☺	
March 20*	Mid-Term Lab Practical *Exam III Due	
March 22	Mid-Term Lab Practical	
March 27	Mid-Term Lab Practical	
March 29	Introduction to Electrical Currents	Ch. 11
April 3	Electrical Currents for Muscle Contraction (strengthening)	Ch. 12
April 5	FES/NMES, Pulsed Bi-phasic, Russian e-stim labs	
April 10	FES/NMES, Pulsed Bi-phasic, Russian e-stim labs	
April 12	Electrical Currents for Pain Control	Ch. 13
April 17	TENS/ Interferential and Pre-modulated currents labs	
April 19	Electrical Currents for Tissue Healing	Ch. 14
April 24	Iontophoresis, HVPC (High Volt Pulsatile Current) labs Exam IV available 4/25 (Chs. 11, 12, 13, 14) Due 5/1 - Monday	
April 26	Review of Electrotherapy labs – Open lab	

May 1	Ther. ex., Data collections & Phys. Agents lab final (all day) <i>*Exam IV Due</i>	
May 2	Ther. ex., Data collections & Phys. Agents lab final (all day)	
May 3	Ther. ex., Data collections & Phys. Agents lab final (all day)	
May 8	<i>Comprehensive Final Exam</i>	

** The instructor reserves the right to make modifications in content and schedule as necessary to promote the best education possible within prevailing conditions affecting this course.**

Assignments:

See Above

Student Responsibilities/Expectations:

ATTENDANCE AND ABSENTEEISM

TARDIES AND ABSENCES ARE STRONGLY DISCOURAGED

The PTA faculty believes that the habits and work patterns established in school will be carried over to the work setting. Therefore, every effort should be made to establish patterns of good attendance and promptness. This applies not only to the technical courses but also the general education and support courses. Student attendance is addressed under student responsibilities in the school catalog. In addition, student attendance and participation is also addressed utilizing the Professionalism Development Rubric. This document provides the student a means to identify and track any area(s) of deficiency regarding professional behaviors; and, to improve in the area(s). For the PTA Program, the following guidelines concerning attendance will be enforced:

1. For every class period missed, one (1) absence is accumulated.
2. A student more than five minutes late or leaving class early with or without instructor permission is considered tardy.
3. Three (3) tardies constitute one (1) absence.
4. After absences (excused or unexcused) in any 4 class periods per semester, the student will be placed on probation. Stipulations of probation will be developed based on the student's history and circumstances surrounding the absences; and conditions for dismissal in the event of a future absence will be included in the probationary contract.
5. Make-up work is required for all absences in order to ensure that the student acquires information and skills presented during his/her absence (see Make-up work section). It is the student's responsibility to meet with instructor(s) on the first day back to schedule make-up work and/or lab check-off.
6. Students must notify (voicemail or e-mail) the PTA office in advance whenever excessive (>5 minutes) tardiness or absence is unavoidable. **Notification of the student's absence by classmates is not acceptable.**

*Note: An absence will be excused by provision of a note written and signed by a medical professional and by uncontrollable or unavoidable extenuating circumstances as documented below. All other absences/tardies will be considered unexcused.

Further explanation of **excused absences** is as follows:

- “A student’s serious illness” shall mean a condition such as pneumonia, surgery, hospital confinement, or valid documented medical reason. A physician’s documentation verifying illness must be provided.
- “Death in the immediate family” shall be interpreted to mean mother, father, mother-in-law, father-in-law, spouse, child, brother, sister, grandparents, or significant other. Documentation must be provided.
- “Statutory government responsibilities” refer to such matters as jury duty or subpoena for court appearance. Documentation must be provided.
- Inclement weather – see policy below.

INCLEMENT WEATHER/DESIGNATED HOLIDAYS

Students scheduled for class during inclement weather conditions in which NTCC designates travel hazardous and closes the campus, will not be expected to attend class that day. However, in the event that NTCC remains open for classes, but the local school district in which the student resides closes and the student deems travel as hazardous, the student will not be expected to attend class that day. All class and lab work missed in this situation must be made up. If NTCC is open and the local school district in which the student resides remains open, the student must attend class that day. If the student does not attend class in the event that NTCC remains open, both the course instructor and program director must be notified in advance as with any other absence. The absence will be unexcused.

MAKE-UP WORK

Due to Absence:

Each student is responsible for all material and techniques presented in class and labs. If a class is missed, the student is responsible for obtaining from a classmate, notes, handouts and information covered during that absence. It is the student’s responsibility to schedule a time with the instructor to make up any missed lab check-offs. Lab check-offs must be made up within one week of the date absent. The student’s grade will be lowered 10 points on the corresponding lab practical for each lab session not made up within the timeframe scheduled. If a test or special assignment is missed (due to an excused absence), it is the student’s responsibility to consult the instructor the next time the student is on campus about making up a test or turning in an assignment. Assignments due on the date of absence must be turned in the next time the student is on campus; otherwise, the student will receive a “0” for the work missed. An unexcused absence will result in a “0” for assignments, check-offs, practicals, and exams missed; the student will not have the opportunity to make up the work missed work.

If a lecture test or lab practical is missed, the student must make-up that test within one week from the date missed providing appropriate notification of absence was made prior to the original test time. Lack of notification prior to exam time will result in a grade of “0” for the missed exam; notifying classmates to relay the student’s absence is not acceptable. One make-up test and/or lab practical due to excused absence, per class, per semester is allowable without penalty. **It is the student’s responsibility to set up a time with the instructor to make up the exam.**

Due to failure of lecture exam or practical:

If a student fails to make at least a grade of 75 on a lecture exam or a lab practical, the student may take a make-up test or practical within one week. **The final exam in each course is excluded from this policy; i.e. the student cannot “re-do” the final exam to pass the class.** Only one re-do lecture exam or lab practical is allowed per class per semester and can only result in a maximum grade of 75; if the student fails the “re-do”, the second grade stands. **It is the student’s responsibility to set up a time with the instructor to make up any re-do practical. The re-do cannot be taken on the same day as the lab practical and must be scheduled during the instructor’s office hours the next week.**

Required Remediation:

In the event a student scores less than a 75 on a lab practical exam and does not choose to re-do the failed lab practical, the student will be required to complete remediation of the previously failed practical components to proficiency (based on lab practical rubric) as assigned by course instructor. Failure to complete remediation satisfactorily will result in failure of the course.

Due to failure of safety criteria on lab practical exam:

On lab practical exams several areas of the exam are considered to be patient safety issues; if a student fails a patient safety element/criteria he/she will be required to re-do the lab practical. The highest grade that a student can receive on a re-do is 75. If a student fails the safety criteria on the re-do practical exam, the student will be given a grade of “0” on the practical and automatically fails the course. Only one re-do lab practical is allowed per class per semester. It is the student’s responsibility to set up a time with the instructor to make up any redo practical. The re-do cannot be taken on the same day as the lab practical and must be scheduled during the instructor’s office hours the next week.

NTCC Academic Honesty Statement:

"Students are expected to complete course work in an honest manner, using their intellects and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. NTCC upholds the highest standards of academic integrity. This course will follow the NTCC Academic Honesty policy stated in the Student Handbook."

Academic Ethics

The college expects all students to engage in academic pursuits in a manner that is beyond reproach. Students are expected to maintain complete honesty and integrity in their academic pursuit. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. Refer to the student handbook for more information on this subject.

ADA Statement:

It is the policy of NTCC to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student’s responsibility to request accommodations. An appointment can be made with John Coleman, Academic Advisor/Coordinator of Special Populations located in the College Connection. He can be reached at 903-434-8104. For more information and to obtain a copy of the Request for Accommodations, please refer to the [NTCC website - Special Populations](#).

Family Educational Rights And Privacy Act (FERPA):

The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of

student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children's educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered "eligible students." In essence, a parent has no legal right to obtain information concerning the child's college records without the written consent of the student. In compliance with FERPA, information classified as "directory information" may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student's name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.

Other Course Policies:

ACADEMIC HONESTY POLICY

"Students are expected to complete course work in an honest manner, using their intellects and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. **NTCC upholds the highest standards of academic integrity. This course will follow the NTCC Academic Honesty policy stated in the Student Handbook.**"

In addition to upholding the NTCC Academic Honesty Policy, students in the PTA program are required to follow the honor code provided in the program policy and procedure manual. The program honor code states that you will neither give nor receive any unauthorized assistance from any person, paper, or object on any test, paper, examination, or project. This includes talking about lab practical exams, regular exam questions, looking at copies of old tests from previous students, copying or allowing anyone to copy off of your test or assignment, and discussing any aspect of an exam with a student who has not yet taken the test. When using another person's words or ideas, credit should be given to the source. Failure to abide by this policy may result in expulsion from the PTA Program.

Violations of this policy will be brought to the attention of the student by the instructor. If there is suspicion of wrongdoing without corroborating evidence, the matter will be discussed with the student and a written warning/contract will be issued if warranted. If there is clear evidence that a violation has taken place, the student will receive a grade of "0" for that test/assignment in question; and the instructor will impose a sanction ranging from a written warning to expulsion from the course with a failing grade.

If the student does not feel that the issue is satisfactorily resolved, the student should contact the PTA Program Director to discuss the matter. If the matter cannot be resolved at that level, the student may contact the Dean of Allied Health, followed by the Vice President for Instruction and Student Development. If the issue is not satisfactorily resolved at the end of this process, the student may initiate a formal grievance procedure outlined in the NTCC Student Handbook and in this manual.

CLASS PREPAREDNESS

Students are expected to complete all reading assignments, as outlined in the course schedule or assigned by the instructor, prior to class time. It is the responsibility of the student to turn in assignments on time. Assignments are due at the beginning of the class period. Late assignments received by the next class period will result in a maximum grade of 75. If assignment is not turned in by the next class period the student will receive a grade of "0" for that assignment.

Students are expected to participate in and perform a variety of physical therapy procedures on each other in lab and the classroom for educational purposes; after practicing each laboratory skill, the student will be asked to present a return demonstration to the instructor at some point prior to the conclusion of the lab.

POLICY ON CIVILITY AND CELL PHONES IN THE CLASSROOM AND LABORATORY

Students are expected to assist in maintaining a classroom environment that is conducive to learning. If a student brings a cell phone to class/ lab, make sure it is turned off or on silent mode. The student will not be allowed to answer his/her cell phone during class/lab. If the student is expecting a very important call, they are to notify the instructor prior to class regarding the nature of the situation. Cell phones must be put away, out of sight, during tests. Inappropriate or distractive classroom behavior is prohibited in order to assure that everyone has opportunity to gain from time spent in class. Should a disruptive classroom incident occur, the faculty member in charge may remove the student on either a temporary or permanent basis. Students have the right to appeal through appropriate channels.