

**The University of Texas at Tyler**  
**Department of Health & Kinesiology**  
**KINE 3342 001: Therapeutic Modalities**

Department: Health & Kinesiology  
Class Credit: 3 semester hours  
Class Schedule: Tuesdays 8:00 – 10:20 am  
Class Location: HPC 3010  
Course Prerequisites: KINE 2337 001  
Instructor: Rebekah Grube, MEd, LAT, ATC  
Office Hours: Open door policy  
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Required Textbooks: Starkey, C. (2004). Therapeutic Modalities. Philadelphia, PA: F.A. Davis Company. 3<sup>rd</sup> edition.  
Horodyski, M. & Starkey, C. (2004). Laboratory Activities for Therapeutic Modalities. Philadelphia, PA: F.A. Davis Company. 3<sup>rd</sup> edition.

Course Description: To study the skills in the use of therapeutic modalities including cold, heat, water, sound, electricity and massage in addition to the procedures, both written and verbal, for their use in treating injuries to the physically active.

Outcomes: Upon completion of the course, the student shall be able to:

1. Describe the integration and coordination of cell function in response to injury.
2. Define the inflammatory response to acute & chronic injury and illness.
3. Define tissue lesions by body systems in terms of etiology, pathogenesis, pathomechanics, treatment options, and expected outcomes.
4. Identify the implications of various underlying pathologies and use this knowledge to select appropriate therapeutic modalities and therapeutic exercise protocols.
5. Promote accountability for moral and ethical decision-making in the treatment of pathologic conditions.
6. Cite the signs and symptoms and pathology of acute inflammation.
7. Determine the appropriate modality according to the treatment goals and objectives as they relate to wound healing and tissue repair.

8. Describe methods of evaluating and recording progress of therapeutic modality treatments.
9. Illustrate the use volumetric and anthropometric measurements to determine the effectiveness of treatment outcomes.
10. Identify the body's physiological responses during and following the application of therapeutic modalities.
11. Describe the role and function of the common prescription and nonprescription pharmacological agents that are used in conjunction with therapeutic modalities.
12. Explain the principles of physics, including basic concepts associated with the electromagnetic and acoustic spectra.
13. Interpret terminology, principles, and basic concepts of electrical units.
14. Compare and contrast contemporary pain-control theories.
15. Assess the selection and use of therapeutic modalities for the control of acute and chronic pain.
16. Describe the electrophysics, biophysics, set-up, indication, contraindications, and specific physiologic effects associated with stimulating electrical currents.
17. Describe the electrophysics, biophysics, set-up, indication, contraindications, and specific physiologic effects associated with the application of superficial heat and cold.
18. Describe the electrophysics, biophysics, set-up, indication, contraindications, and specific physiologic effects associated with therapeutic ultrasound.
19. Describe the electrophysics, biophysics, set-up, indication, contraindications, and specific physiologic effects associated with therapeutic soft-tissue massage.
20. Illustrate the typical physiological and psychological responses to trauma as they relate to the use of therapeutic modalities.
21. Interpret local, state, and federal standards for the operation and safety standards of therapeutic modalities.
22. Describe the manufacturer's protocol for use to ensure safe and proper application.
23. Apply manufacturer's guidelines for the inspection and maintenance of therapeutic modalities.
24. Accept the professional, ethical, and legal parameters that define the proper role of the licensed athletic trainer in the use of therapeutic agents to treat, rehabilitate and recondition athletes and others involved in physical activity.
25. Respect the role of attending physicians and other medical and allied health personnel in the use of therapeutic agents to treat, rehabilitate, and recondition athletes and others involved in physical activity.

26. Advocate the accepted medical protocol regarding the confidentiality of medical information relative to therapeutic modality treatments.
27. Initiate accepted medical protocol regarding therapeutic modalities.
28. Promote the accepted medical protocol regarding health care referral in the rehabilitation and reconditioning process.

**Exam Policy:** In order to protect the integrity of examinations and to treat all students fairly, examinations should be taken only when they are scheduled. If a student knows that he/she is going to be absent for an exam, it is the student's responsibility to make arrangements with the instructor to take the exam prior to the absence. Exams may be taken after the scheduled date only in the event of an illness or personal or family emergency.

**Attendance Policy:** Students are expected and urged to attend all class sessions with the exception of illness, emergencies or a sanctioned university event. According to the university Catalog (pg. 95), "Each instructor may establish a more stringent absence policy if it is outlined in the course syllabus." Therefore, each student will be allowed 2 absences over the course of the semester. On the 3<sup>rd</sup> absence, you will lose 10 points from your attendance grade and 10 points for each subsequent absence after.

**Late Work:** All assignments are expected to be turned in as scheduled in the course syllabus. For each day that an assignment is late, the grade for that assignment will be decreased by 5%.

**Academic Integrity Policy:** We assume that students and faculty will conduct themselves according to a code of personal and professional integrity. This means that students and faculty will act from the basis of courtesy, honesty and respect for each other in their academic work and interpersonal relationships. Students are expected to complete work individually for assignments and examinations. Copying from other students constitutes unethical behavior and is not allowed. When references are used, please cite them accordingly.

**Course Requirements:**

Lab Attendance & Participation	50 pts
Lecture Attendance & Participation	50 pts
Lab Worksheets (16 @ 20 points each)	320 pts
Quizzes (5 @ 40 points each)	200 pts
Comprehensive Final	<u>200 pts</u>
Total Points	820 pts

## Course Outline

<b>Date</b>	<b>Textbook Chapter</b>	<b>Lab Activity</b>
January 13th	Ch. 1 – The Injury Response Process	
20 <sup>th</sup>	Ch. 2 – The Physiology and Psychology of Pain Ch. 1 & 2 Quiz	
27 <sup>th</sup>	Ch. 3 – Development and Delivery of Treatment Protocol	Activity 1-1
February 3 <sup>rd</sup>	Ch. 4 – Administrative Considerations	Activity 1-2, 1-3, 1-4
10 <sup>th</sup>	Section One (Ch. 1-4) Quiz Ch. 5 – Thermal Modalities	Activity 2-1
17 <sup>th</sup>	Ch. 5 & 6– Thermal Modalities	
24 <sup>th</sup>	Ch. 5 & 6 – Clinical Application of Thermal Modalities	Activity 2-2, 3-1
March 3 <sup>rd</sup>	Section Two (Ch. 5 & 6) Quiz Ch. 7 Therapeutic Ultrasound	Activity 3-2
10 <sup>th</sup>	No Class – Spring Break ☺	
12 <sup>th</sup>	No Class – Spring Break ☺	
17 <sup>th</sup>	Ch. 7 – Therapeutic Ultrasound	
24 <sup>th</sup>	Ch. 8 – Therapeutic Ultrasound	Activity 5-1, 5-2
	Ch. 8 – Clinical Application of Therapeutic Ultrasound	Activity 5-3
31 <sup>st</sup>	Section Three (Ch. 7 & 8) Quiz Ch. 11 Principles of Electrical Stimulation	
April 7 <sup>th</sup>	Ch. 11 – Principles of Electrical Stimulation	Activity 4-1, 4-2
14 <sup>th</sup>	Ch. 12 – Electrical Stimulation Techniques	Activity 4-3
21 <sup>st</sup>	Ch. 13 – Clinical Application of Electrical Agents	Activity 4-4
28 <sup>th</sup>	Section Four (Ch. 11-13) Quiz Ch. 16 – Therapeutic Massage	Activity 6-4
	Ch. 10 – Shortwave Diathermy – <b>Short Overview</b>	
	Ch. 14 – Intermittent Compression – <b>Short Overview</b>	
	Ch. 15 – Continuous Passive Motion – <b>Short Overview</b>	
	Ch. 17 – Cervical and Lumbar Traction – <b>Short Overview</b>	
	Ch. 18 – Electromyographic Biofeedback – <b>Short Overview</b>	
	Ch. 19 – Light Modalities – <b>Short Overview</b>	
	Ch. 20 – Hyperbaric Oxygen Therapy – <b>Short Overview</b>	
	Ch. 21 – Therapeutic Magnets - <b>Short Overview</b>	
May 5 <sup>th</sup>	Comprehensive Final 8:00 – 10:00 am	