

George Mason University
College of Education and Human Development
Athletic Training

ATEP 350 002- Therapeutic Interventions I
3 credit hours, Fall 2016
Monday-Wednesday/9-10:15am BRH 256 Science & Technology Campus

Faculty

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Prerequisites/Corequisites

Pre-requisites: Formal acceptance to the professional phase of the ATEP; ATEP 150, 180, 250, 255, 256, 260, 265, 266, 270; BIOL 124, 125; HEAL 110, 230; PHED 300

Co-requisites: Concurrent enrollment in ATEP 355 and 356

University Catalog Course Description

This course uses an integrated approach to the use of therapeutic modalities and rehabilitation in the treatment of athletic injuries and conditions. This will include a study of the indications, contraindications, physiological effects, special programs, and resistance methods that are used with therapeutic modalities and prevention/rehabilitation methods for athletic injuries. This course will have particular focus on physiologic response to injury and healing, physiologic cause of pain, physiologic response of tissue to treatment modalities and therapeutic exercise, and theory of associated modalities and rehabilitation paradigms.

Course Overview

Not Applicable.

Course Delivery Method

This course will be delivered using a face-to-face, lecture format.

Learner Outcomes or Objectives

This course is designed to enable students to do the following:

1. Describe physiological effects of therapeutic modalities;
2. Identify therapeutic modalities used in athletic training;
3. Describe effects of electricity on the muscular, skeletal, circulatory and nervous system;
4. Describe the therapeutic effects of electricity on soft tissue injuries;
5. Describe effects of ultrasound on the muscular, skeletal, circulatory and nervous system;

6. Describe the therapeutic effects of ultrasound on soft tissue injuries;
7. Describe the effects of mechanical and manual therapy techniques on the muscular, skeletal, circulatory and nervous system;
8. Describe the therapeutic effects of mechanical and manual therapy on soft tissue injuries;
9. Describe the effects of light therapy on the muscular, skeletal, circulatory and nervous system;
10. Describe the therapeutic effects of light therapy on soft tissue injuries;
11. Describe the therapeutic effects of emergent therapeutic modalities;
12. Identify the indications and contraindications of therapeutic modalities; and
13. Demonstrate an appreciation for and ability to apply evidence-based clinical practices.
14. Identify goals of rehabilitation.
15. Identify flexibility techniques used in the prevention and rehabilitation of athletic injuries.
16. Identify muscular strength testing techniques.
17. Identify goniometric measurements for each joint.
18. Effectively perform special tests for individual joints.
19. Identify appropriate joint mobilization techniques for increased range of motion.
20. Identify therapeutic exercise equipment, techniques and principles.
21. Identify the indications and contraindications of rehabilitative equipment.

Professional Standards

The course meets Commission on Accreditation of Athletic Training Education (CAATE) competencies and proficiencies in one or more of the following content areas: evidence-based practice, prevention and health promotion, clinical examination and diagnosis, acute care of injury and illness, therapeutic interventions, psychosocial strategies and referral, healthcare administration, professional development and responsibility.

Required Texts

1. Knight K, Draper D. *Therapeutic Modalities: The Art and Science*. 2nd ed. Philadelphia, PA: Lippincott, Williams & Wilkins.
2. Prentice, W. *Rehabilitation Techniques for Sports Medicine and Athletic Training*. 6th ed. Slack Incorporated.

****Students will be notified of additional readings for each section****

*ADDITIONAL READINGS THAT MAY BE OF HELP (**Not Required**)*

1. Denegar CR, Saliba E, & Saliba S. *Therapeutic modalities for musculoskeletal injuries*. Human Kinetics, 2010.
2. Prentice WE. *Therapeutic Modalities for Sports Medicine and Athletic Training*. McGraw-Hill, 2009.

Course Performance Evaluation

Students are expected to submit all assignments on time in the manner outlined by the instructor (e.g., Blackboard, Tk20, hard copy).

- **Article Reviews/Reflections**

Throughout the semester you will be assigned various articles or topics for review and/or reflection. Paper copies of article reviews must be turned in at the start of class. They are to be 12pt, Times New Roman font, single-spaced with your first/last name, course number and date. Reviews should be approximately 1 page in length. An outline describing the information to be included in each article review will be provided. Reflections will be submitted as discussion boards on blackboard and must be a minimum of 150 words in length.

- **Quizzes**

Quizzes will be given during the first 10 minutes of class on the dates indicated on the Course Calendar. ***Please note that the Course Calendar may change at the discretion of the instructor, and students will be promptly notified of any changes.*** This will be a brief multiple choice and/or true-false assessment of your knowledge from the reading. If you are not present in class before the instructor is done handing out the quiz to begin taking, you will be considered late and will not be allowed to complete the quiz.

- **Examinations:**

Five examinations, not including a comprehensive final exam, will be administered in class. The format of these examinations may be multiple choice, true/false, short answer, matching, essay and fill in the blank type questions. Each of the examinations will test the material covered in the assigned reading and during the prior class meetings. ***You are required to bring a scantron to each examination.***

- **Evidence Based Clinical Review**

The purpose of this assignment is to provide an understanding of relevant research literature that justifies why and how therapeutic interventions are applied to patients. Using research based evidence; the clinician makes practice decisions based on the best available research evidence, clinical experience and a patient's values. You will be required to write a research paper discussing the relevant research pertaining to the management of an injury you observed in your clinical experience this semester.

The case report should present pertinent information as to the condition the patient experienced, any signs and symptoms that would qualify the use of a therapeutic intervention, a discussion of the rehabilitation goals, and a description of the therapeutic interventions used to achieve the goals. The report should also include a discussion as to the appropriate use of the therapeutic interventions and evidence for/against the use of these interventions. The discussion of any other possible interventions that were not used, but would have been appropriate should be included. This section should include references from peer reviewed journal articles to support any argument you make, and present any alternative theories. If possible collecting patient outcomes that would help support the use of the chosen intervention would be a benefit to the report.

There are a number of databases on the web available to support evidence-based clinical practice through peer reviewed journals. Students are encouraged to use databases such as PubMed, CINAHL and SPORT Discuss to identify pertinent resources. Students are also

strongly encouraged to explore the Cochrane (<http://www.cochrane.org/reviews/clibintro.htm>) and The Physiotherapy Evidence Database (<http://www.pedro.fhs.usyd.edu.au/index.html>) to identify pertinent systematic reviews and graded clinical trials. These sites also provide excellent tutorials related to assessing the methodological quality of clinical trials. The paper must be in American Medical Association format (Journal of Athletic Training) and be supported by a sufficient number of peer reviewed scholarly sources.

- **Class Participation:**

Attending, being prompt, and active participation are important components of this course. Therefore, students will earn credit for attending and contributing to the class.

- **GRADING: Course Grading**

ASSESSMENT METHOD	NUMBER	POINTS EACH	POINTS TOTAL
Class Participation	24	2	48
Article Review/Reflection	7	15	105
Quizzes	7	10	70
Written Examinations	5	60	300
Evidence Based Clinical Review	1	120	120
Comprehensive Final Exam	1	40	40
TOTAL	—	—	683

- **Grading Policies**

The student's final letter grade will be earned based on the following scale:

A:	635.2 – 683 pts	(93%)
A-:	614.7– 634.1 pts	(90%)
B+:	594.2– 517.99 pts	(87%)
B:	566.9 – 584.1 pts	(83%)
B-:	546.4 – 566.8 pts	(80%)
C+:	525.9 – 546.3 pts	(77%)
C:	498.5 – 525.8 pts	(73%)
C-:	478.1 – 498.4 pts	(70%)
D:	430.3 – 478.0 pts	(63%)
F:	< 430.2 pts.	

Professional Dispositions

Students are expected to exhibit professional behaviors and dispositions at all times.

Core Values Commitment

The College of Education and Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles: <http://cehd.gmu.edu/values/>.

GMU Policies and Resources for Students

Policies

- Students must adhere to the guidelines of the Mason Honor Code (see <http://oai.gmu.edu/the-mason-honor-code/>).
- Students must follow the university policy for Responsible Use of Computing (see <http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>).
- Students are responsible for the content of university communications sent to their Mason email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students **solely** through their Mason email account.
- Students with disabilities who seek accommodations in a course must be registered with George Mason University Disability Services. Approved accommodations will begin at the time the written letter from Disability Services is received by the instructor (see <http://ods.gmu.edu/>).
- Students must follow the university policy stating that all sound emitting devices shall be silenced during class unless otherwise authorized by the instructor.

Campus Resources

- Support for submission of assignments to Tk20 should be directed to tk20help@gmu.edu or <https://cehd.gmu.edu/api/tk20>. Questions or concerns regarding use of Blackboard should be directed to <http://coursesupport.gmu.edu/>.
- The George Mason University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing (see <http://writingcenter.gmu.edu/>).
- The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance (see <http://caps.gmu.edu/>).
- The George Mason University Office of Student Support staff helps students negotiate life situations by connecting them with appropriate campus and off-campus resources. Students in need of these services may contact the office by phone (703-993-5376). Concerned students, faculty and staff may also make a referral to express concern for the safety or well-being of a Mason student or the community by going to <http://studentsupport.gmu.edu/>, and the OSS staff will follow up with the student.

For additional information on the College of Education and Human Development, please visit our website <https://cehd.gmu.edu/>.

Class Schedule

Day	Date	Tentative Topic	Assignment
1	Aug 29	Intro to Therapeutic Modalities	Ch 1
2	Aug 31	Tissue Response to Healing	Ch 5 <i>Reflection #1 Due</i>
3	Sept 7	Tissue Response to Healing con't	Ch 5 <i>Quiz #1</i>
4	Sept 12	Healing Process	Ch 7
5	Sept 14	EXAM #1	
6	Sept 19	Understanding Pain/ Pain Control	Ch 8, 9
7	Sept 21	Cryotherapy	Ch 12, 13 <i>Quiz #2</i>
8	Sept 26	Thermotherapy	Ch 10, 11
9	Sept 28	Current Evidence re: Cryo/Thermotherapy in Healing	<i>Quiz #3</i> <i>Article Review #1</i>
10	Oct 3	EXAM #2	
11	Oct 5	Ultrasound	Ch 14
12	Oct 11	Diathermy	Ch 15
13	Oct 12	Current Evidence re: US in Healing	<i>Quiz #4</i> <i>Article Review #2</i>
14	Oct 17	EXAM #3	
15	Oct 19	Electrotherapy General Principles	Ch 16
16	Oct 24	Electrotherapy (IFC, NMES, Ionto, Hi Volt)	Ch 17
17	Oct 26	Current Evidence re: Electrotherapy in Healing	<i>Quiz #5</i> <i>Article Review #3</i>
18	Oct 31	EXAM # 4	
19	Nov 2	Therapeutic Massage/Manual Therapy	Ch 18
20	Nov 7	Alternative Interventions	Ch 20 <i>Reflection Due #2</i>
21	Nov 9	The Eval Process	<i>Quiz #6</i> Ch 3
22	Nov 14	Range of Motion/Flexibility	Ch 8
23	Nov 16	Strength	Ch 9
24	Nov 21	Neuromuscular Control/ Proprioception	Ch 6, 7 <i>Quiz #7</i>
25	Nov 28	Plyometrics	Ch 11 <i>Article Review #4</i>
26	Nov 30	Functional Exercise	Ch 16
27	Dec 5	TBD	<i>Reflection Due #3</i>
28	Dec 7	EXAM #5	<i>EBP Clinical Review Due</i>
29	TBD	FINAL EXAM	

Note: Faculty reserves the right to alter the schedule as necessary, with notification to students.

Attendance

Students are expected to be on time, attend all class meetings and be prepared for in class assignments and projects. Excused absences include the following: illness (must bring a receipt or note from a doctor), family death, athletic/academic event (contact instructor in advance), and others at the discretion of the instructor. For known upcoming absences, students must contact the instructor at least one week in advance to the missed class to make up work. In the case of illness or some other unforeseen absence, the student must contact the instructor via e-mail or telephone. At the next attended class meeting the student will discuss material that is to be completed. ***Students will have one week from the excused absence to complete any missed assignments.*** It is the student's obligation to pursue any make-up work.

Technology Use During Class

As per GMU policy, all sound emitting technology is required to be turned off during the class meeting time. Additionally, *no laptop computers* will be permitted for use during class time; the exceptions are for use during presentations/projects, and technology deemed as necessary by the Office of Disability Services. Students utilizing various technology devices during class will be asked to leave class and will not be permitted to complete course work or receive any points for assignments that day.

E-mail Correspondence

Only messages that originate from a George Mason University address will be accepted.

Please note that e-mail is a wonderful tool for brief communication of ancillary matters, but is a poor substitute for in-person discussion of detailed matters. Therefore, to make communication more effective, e-mail correspondence from students should be limited to brief clarification of matters related to the class schedule, to receive confirmation of receipt of an assignment, to schedule a meeting, to notify the instructor of problems accessing materials on the course website, or to notify the instructor of an anticipated or unanticipated absence (to be followed by in-person discussion prior to or following the class meeting time). All other communication including clarification of information presented in lecture, questions regarding assignments, questions regarding grades, and all other matters should be addressed with the instructor in-person during office hours or during a scheduled meeting.

As a future health care practitioner, the ability to present yourself and communicate in a professional manner is essential, including the use of e-mail. The following is an appropriate professional format that should be followed for this class, as well as any other instructors/ACIs:

(Beginning salutation) Dear Dr./Mr./Mrs. *Last Name*

(Text body) I have a question regarding...

(Ending Salutation) Regards/Respectfully/Sincerely,

(Your name) *First and Last Name*

Make Up Work

Students who are absent or who arrive late without an official university or a medical doctor's excuse will not be permitted to participate in the class activities for credit the day of the absence or tardy event. There will be no make-up quizzes or exams unless an excused absence has been warranted. Students who miss an examination, quiz or other class activity because of an excused absence must complete the assignment *within a week of the excused absence*. It is the student's obligation to pursue any make-up work.

LATE ASSIGNMENTS

All work is due at the beginning of class time on the indicated day. **NO LATE WORK WILL BE ACCEPTED!**