GEORGE MASON UNIVERSITY  
School of Recreation, Health and Tourism  

ATEP 350 —002 Therapeutic Interventions I (3) Fall 2015

DAY/TIME: M/W 9:00-10:15am  LOCATION: OB 318
INSTRUCTOR: Ms. Marcie Fyock, MS, ATC, LAT  EMAIL ADDRESS: mfyock@gmu.edu
OFFICE LOCATION: Bull Run Hall 210  PHONE NUMBER: 703-993-7118
OFFICE HOURS: M/W 10:30-12:00 or By Appointment  FAX NUMBER: 703-993-2025
SCHOOL WEBSITE: www.rht.gmu.edu  COURSE WEBSITE: mymason.gmu.edu

PRE/CO-REQUISITES
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

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 OBJECTIVES
At the completion of this course students should be able to:
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.
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.

**COURSE OVERVIEW**
This didactic course will focus on the development of cognitive competencies necessary for the safe, effective, and evidenced-based application of therapeutic modalities in a physically active patient population.

**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

Accreditation 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 READINGS


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

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

EVALUATION

Students will be evaluated on content standards (knowledge gained). Content standards will be assessed via projects, written quizzes and exams.

Article Reviews/Reflections

Throughout the semester you will be assigned various articles or topics for review and/or reflection. You will write a reflective summary that is typed (12pt, Times New Roman font), single spaced with your first/last name, course number and date. Review/reflectons should be
approximately one page in length. An outline describing the information to be included in each article review will be provided.

**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.
The topic for the Case Report must be submitted to the instructor and approved by the date indicated on the topics outline. A detailed outline of the formatting of the Case Report will be provided for students.

**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.

**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!**

<table>
<thead>
<tr>
<th>ASSESSMENT METHOD</th>
<th>NUMBER</th>
<th>POINTS EACH</th>
<th>POINTS TOTAL</th>
</tr>
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<tbody>
<tr>
<td>Class Participation</td>
<td>24</td>
<td>2</td>
<td>48</td>
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<tr>
<td>Article Review/Reflection</td>
<td>7</td>
<td>15</td>
<td>105</td>
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<tr>
<td>Quizzes</td>
<td>7</td>
<td>10</td>
<td>70</td>
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<tr>
<td>Written Examinations</td>
<td>5</td>
<td>60</td>
<td>300</td>
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<tr>
<td>Evidence Based Clinical Review</td>
<td>1</td>
<td>120</td>
<td>120</td>
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<tr>
<td>Comprehensive Final Exam</td>
<td>1</td>
<td>40</td>
<td>40</td>
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<tr>
<td><strong>TOTAL</strong></td>
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<td><strong>683</strong></td>
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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.
ATEP 350 **Tentative Course Schedule**: Faculty reserves the right to alter the schedule as necessary.

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Tentative Topic</th>
<th>Assignment</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Aug 31</td>
<td>Course Intro/Therapeutic Modalities</td>
<td>Ch 1</td>
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<tr>
<td>2</td>
<td>Sept 2</td>
<td>Tissue Response to Healing</td>
<td>Ch 5 Reflection Due</td>
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<td>3</td>
<td>Sept 9</td>
<td>Tissue Response to Healing con’t</td>
<td>Ch 5, Quiz</td>
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<td>4</td>
<td>Sept 14</td>
<td>Healing Process</td>
<td>Ch 7, Handouts</td>
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<td>5</td>
<td>Sept 16</td>
<td>Written Examination #1</td>
<td>Ch 1-7</td>
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<tr>
<td>6</td>
<td>Sept 21</td>
<td>Pain Neuromatrix/Explanations for Pain Control</td>
<td>Ch 8</td>
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<tr>
<td>7</td>
<td>Sept 23</td>
<td>Cryotherapy and Compression</td>
<td>Ch 6, 12</td>
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<td>8</td>
<td>Sept 28</td>
<td>Thermotherapy</td>
<td>Ch 10</td>
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<tr>
<td>9</td>
<td>Sept 30</td>
<td>Current Evidence re: Cryo/Thermotherapy in Healing</td>
<td>Quiz, Article Review #1</td>
</tr>
<tr>
<td>10</td>
<td>Oct 5</td>
<td>Written Exam #2</td>
<td>Ch 8-13</td>
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<tr>
<td>11</td>
<td>Oct 7</td>
<td>Electrotherapy General Principles/TENS</td>
<td>Ch 16</td>
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<td>12</td>
<td>Oct 13</td>
<td>Electrotherapy: IFC, NMES, Ionto, Hi Volt</td>
<td>Ch 16, Quiz</td>
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<tr>
<td>13</td>
<td>Oct 14</td>
<td>Current Evidence re: Electrotherapy in Healing</td>
<td>Article Review #2</td>
</tr>
<tr>
<td>14</td>
<td>Oct 19</td>
<td>Written Exam #3</td>
<td>Ch 16</td>
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<tr>
<td>15</td>
<td>Oct 21</td>
<td>Diathermy (w/clinical practice)</td>
<td>Ch 15</td>
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<td>16</td>
<td>Oct 26</td>
<td>Ultrasound</td>
<td>Ch 14, Quiz</td>
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<td>Oct 28</td>
<td>US, Phonophoresis, US Combination Therapy, Current Evidence re: US role in Healing</td>
<td>Ch 14, Article Review #3</td>
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<tr>
<td>18</td>
<td>Nov 2</td>
<td>Written Exam # 4</td>
<td>Ch 14,15</td>
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<tr>
<td>19</td>
<td>Nov 4</td>
<td>Therapeutic Massage/Manual Therapy</td>
<td>Ch 10, Ch 6</td>
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<td>20</td>
<td>Nov 9</td>
<td>Alternative Interventions</td>
<td>Handouts</td>
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<tr>
<td>21</td>
<td>Nov 11</td>
<td>Alternative Interventions</td>
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<tr>
<td>22</td>
<td>Nov 16</td>
<td>Basic Components of Rehab</td>
<td>Ch 1,2,5 Reflection Due</td>
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<td>Range of Motion/Flexibility</td>
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<tr>
<td>23</td>
<td>Nov 18</td>
<td>Strength</td>
<td>Ch 7,</td>
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<td>24</td>
<td>Nov 23</td>
<td>Proprioception</td>
<td>Ch 8, Quiz</td>
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<tr>
<td>25</td>
<td>Nov 30</td>
<td>Plyometrics</td>
<td>Ch 9, Article Review #4</td>
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<tr>
<td>26</td>
<td>Dec 2</td>
<td>Functional Exercise</td>
<td>Ch 10, Quiz</td>
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<td>27</td>
<td>Dec 7</td>
<td>TBD</td>
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<tr>
<td>28</td>
<td>Dec 9</td>
<td>Written Exam #5</td>
<td>Ch 1,2,5,7,8,9,10 Reflection Due</td>
</tr>
<tr>
<td>29</td>
<td>Dec 14</td>
<td>Comprehensive Final Exam 7:30-10:15 am</td>
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</tbody>
</table>
**Student Expectations**

- Students must adhere to the guidelines of the George Mason University Honor Code [See http://oai.gmu.edu/the-mason-honor-code-2/].

- Students with disabilities who seek accommodations in a course must be registered with the George Mason University Office of Disability Services (ODS) and inform their instructor, in writing, at the beginning of the semester [See http://ods.gmu.edu/].

- 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 George Mason University 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 must follow the university policy stating that all sound emitting devices shall be turned off during class unless otherwise authorized by the instructor.

**Campus Resources**

- 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 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/].

- For additional information on the College of Education and Human Development, School of Recreation, Health, and Tourism, please visit our website [See http://rht.gmu.edu].

PROFESSIONAL BEHAVIOR: 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.