Meeting Time: Class: MWF 12:00-12:50pm
Laboratory: T/R or W/F 7:30-8:50am (you must be in one of these labs)
Meeting Location: Class: Silcox Center: PCTR 409
Laboratory: Silcox Center 146 and Carolina First Arena ATR
Instructor: Susan L. Rozzi, PhD, ATC, SCAT, Associate Professor, Director-ATEP
Office Location: 317 Silcox Physical Education & Health Center
Office Hours: Posted on office door. If you are unable to meet during my regularly scheduled office hours, please contact me to set up an appointment. Note: Office hours are tentative.
Office Phone: 953-7163
Email: rozzis@cofc.edu
Class On-line Management System: Hosted by OAKS
Prerequisites: ATEP 245, ATEP 345, or permission of instructor.

Course Description: This course provides comprehensive coverage of the adjunctive use of therapeutic modalities in the athletic injury recovery process. This course examines the physiologic basis and rationale for modality use, clinical application and specific application techniques. Students will gain didactic knowledge regarding modality selection, indications and contraindications as well as hands-on experience in the appropriate use and application of techniques.

Learning Objectives: Upon the successful completion of this course, the student should be able to:
1. describe and differentiate the physiological and pathophysiological responses to inflammatory and non-inflammatory conditions and the influence of these responses on the design, implementation, and progression of a therapeutic modalities treatment
2. treat an acute musculoskeletal injury by applying appropriate immediate treatment, aimed at protecting the injured area and minimizing the effects of hypoxic and enzymatic injury, and by instructing the patient in home care and self-treatment plans.
3. describe common surgical techniques, including interpretation of operative reports, and any resulting precautions, contraindications, and co-morbidities that impact the selection and progression of a therapeutic modalities intervention program.
4. assess and treat a patient’s pain by:
   a. comparing and contrasting the theories of pain perception and pain modulation
   b. differentiating between palliative and primary pain-control interventions.
   c. describing how common pharmacological agents influence pain and healing and listing the advantages and disadvantages of the common routes used to administer medications
5. describe the laws of physics that (1) underlay the application of thermal, mechanical, electromagnetic, and acoustic energy to the body and (2) form the foundation for the development of therapeutic interventions.
6. identify manufacturers, institutional, state, and/or federal standards that influence approval, operation, inspection, maintenance, and safe application of therapeutic modalities.
7. design and administer a therapeutic modality interventions to meet specific goals by:
   a. assessing the patient to identify indications, contraindications, applicable to the potentially available/appropriate therapeutic modalities
   b. inspecting therapeutic modalities and the treatment environment for potential safety hazards
c. incorporating the interrelationship between posture, biomechanics, and ergodynamics into the therapeutic modalities treatment

d. positioning and preparing patient for the treatment

e. explaining the theories and principles relating to expected physiological responses during and following a therapeutic modalities intervention

f. describing to the patient the expected effects and potential outcomes of the selected treatment by applying the patient’s age based physiological response to injury and healing

g. applying the intervention/treatment using appropriate parameters

h. reassess the patient to determine immediate impact of the treatment

i. integrate self-treatment in the intervention, when appropriate

j. describing the relationship between the application of a therapeutic modalities treatment and exercise and manual therapies.

k. utilize the results of on-going examinations to determine when a therapeutic modalities intervention should be progressed, regressed, or discontinued.

8. explain the methods of assessing patient status and progress with clinical outcome assessments by:

a. explaining the theoretical foundation of clinical outcomes assessment

b. describing the types of outcome measures for clinical practice

c. identify functional and patient-centered quality of life outcome measures

d. describing the types of evidence that are gathered through outcomes assessment patient-oriented evidence versus disease-oriented evidence.

e. identify patient- and clinician-oriented outcome measures commonly used to recommend activity level, make return to play decisions, and maximize patient outcomes and progress in the treatment plan

9. differentiate between an initial injury evaluation and follow-up/reassessment as a means to evaluate the efficacy of the patient’s treatment program, and make modifications to the program as needed.

10. determine the effectiveness and efficacy of a therapeutic modalities intervention by:

a. developing a relevant clinical question using a pre-defined question format

b. comparing and contrasting available research and literature resources

c. conducting a literature search using appropriate search techniques and resources

5th Edition Educational Competencies The content of this course will in part or completely cover the following competencies from the 5th edition of the NATA Educational Competencies:

1. Apply appropriate immediate treatment to protect the injured area and minimize the effects of hypoxic and enzymatic injury.

2. Instruct the patient in home care and self-treatment plans for acute conditions.


4. Differentiate between an initial injury evaluation and follow-up/reassessment as a means to evaluate the efficacy of the patient's treatment/rehabilitation program, and make modifications to the patient's program as needed.

5. Develop a relevant clinical question using a pre-defined question format (eg, PICO= Patients, Intervention, Comparison, Outcomes; PIO = Patients, Intervention, Outcomes)

6. Describe and contrast research and literature resources including databases and online critical appraisal libraries that can be used for conducting clinically-relevant searches.

7. Conduct a literature search using a clinical question relevant to athletic training practice using search techniques (eg, Boolean search, Medical Subject Headings) and resources appropriate for a specific clinical question.
8. Determine the effectiveness and efficacy of an athletic training intervention utilizing evidence-based practice concepts.

9. Explain the theoretical foundation of clinical outcomes assessment (eg, disablement, health-related quality of life) and describe common methods of outcomes assessment in athletic training clinical practice (generic, disease-specific, region-specific, and dimension-specific outcomes instruments).

10. Describe the types of outcomes measures for clinical practice (patient-based and clinician-based) as well as types of evidence that are gathered through outcomes assessment patient-oriented evidence versus disease-oriented evidence.

11. Understand the methods of assessing patient status and progress (eg, global rating of change, minimal clinically important difference, minimal detectable difference) with clinical outcomes assessments.

12. Describe and differentiate the physiological and pathophysiological responses to inflammatory and non-inflammatory conditions and the influence of these responses on the design, implementation, and progression of a therapeutic intervention.

13. Compare and contrast contemporary theories of pain perception and pain modulation.

14. Differentiate between palliative and primary pain-control interventions.

15. Compare and contrast the variations in the physiological response to injury and healing across the lifespan.

16. Describe common surgical techniques, including interpretation of operative reports, and any resulting precautions, contraindications, and co-morbidities that impact the selection and progression of a therapeutic intervention program.

17. Identify patient- and clinician-oriented outcomes measures commonly used to recommend activity level, make return to play decisions, and maximize patient outcomes and progress in the treatment plan.

18. Explain the theory and principles relating to expected physiological response(s) during and following therapeutic interventions.

19. Describe the laws of physics that (1) underlay the application of thermal, mechanical, electromagnetic, and acoustic energy to the body and (2) form the foundation for the development of therapeutic interventions (eg, stress-strain, leverage, thermodynamics, energy transmission and attenuation, electricity).

20. Integrate self-treatment into the intervention when appropriate, including instructing the patient regarding self-treatment plans.

21. Design therapeutic interventions to meet specified treatment goals.

22. Assess the patient to identify indications, contraindications, and precautions applicable to the intended intervention.

23. Position and prepare the patient for various therapeutic interventions.

24. Describe the expected effects and potential adverse reactions to the patient.

25. Apply the intervention, using parameters appropriate to the intended outcome.

26. Reassess the patient to determine the immediate impact of the intervention.

27. Use the results of on-going clinical examinations to determine when a therapeutic intervention should be progressed, regressed or discontinued.

28. Describe the relationship between the application of therapeutic modalities and the incorporation of active and passive exercise and/or manual therapies, including, therapeutic massage, myofascial techniques, and muscle energy techniques.

29. Explain the relationship between posture, biomechanics, and ergodynamics and the need to address these components in a therapeutic intervention.

30. Identify manufacturer, institutional, state, and/or federal standards that influence approval, operation, inspection, maintenance and safe application of therapeutic modalities and rehabilitation equipment.

31. Inspect therapeutic equipment and the treatment environment for potential safety hazards.
32. Describe the common routes used to administer medications and their advantages and disadvantages.
33. Describe how common pharmacological agents influence pain and healing and their influence on various therapeutic interventions.

* This text is available as an e-book at [www.humankinetics.com](http://www.humankinetics.com), (eBook ISBN-13: 9780736085588)

**Evaluation Criteria**:

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<th>Lecture: (3 credits)</th>
<th>Laboratory: (0 credit)</th>
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<tr>
<td>Examinations (4 x 100 pts)</td>
<td>Laboratory Activities</td>
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<tr>
<td>= 400</td>
<td>= 200</td>
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<tr>
<td>Content Assessment (10 x 10 pts)</td>
<td>Final Practical Exam</td>
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<td>= 100</td>
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<td>Journal Article Presentation</td>
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<td>= 20</td>
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<td>Journal Article Review Questions (13@10) = 130</td>
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<tr>
<td>Mini-meta-analysis Paper</td>
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<tr>
<td>Reference List</td>
<td>= 15</td>
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<tr>
<td>Abstracts (10 @ 2.5 pts each)</td>
<td>= 25</td>
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<tr>
<td>Paper</td>
<td>= 100</td>
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<tr>
<td>Comprehensive Final Exam</td>
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=990 = 300

**Additional Course Credit**

Students in this course may earn up to 10 additional class points (added to total points available) for participation in activities contributing to their professional development. These activities might include but are not limited to, class attendance, participation in departmental and professional organizations, participation in class activities and discussions, and participation in departmental, college, and area professional development opportunities. Points are awarded at the discretion of the instructor.

**Final Course Grade**

The final grade will be calculated by totaling the number of points earned in the class and laboratory sections of the course and dividing by the total number of available points. The final grade for this course will be assigned based solely upon the percentage of points earned. No other factor will be considered. The grade will be assigned according to the following table:

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<thead>
<tr>
<th>Percentage</th>
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<tr>
<td>75-77 %</td>
<td>C+</td>
<td>&lt;62%</td>
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*IT IS IMPORTANT TO NOTE THAT ANY STUDENT DETERMINED BY THE COLLEGE OF CHARLESTON HONOR BOARD TO BE IN VIOLATION OF ANY ASPECT OF THE HONOR CODE WILL BE ASSIGNED AN "XF" AS THE FINAL GRADE IN THIS COURSE, INDICATING FAILURE OF THE COURSE DUE TO ACADEMIC DISHONESTY.

**Details of Evaluation Criteria:**

**Examinations:**
Four written tests covering material presented in this course will be given on the dates provided on the tentative lecture schedule. In addition, one comprehensive final examination will be given on the date assigned by the College of Charleston’s final examination schedule.

**Content Assessment:**
Ten quizzes covering material presented in this course will be used in calculating the final course grade. All quizzes will be unscheduled and unannounced. Quizzes will be administered at the start of the class period. Students arriving after the quiz has been handed out will not receive additional time to complete the quiz. Students arriving to class after the quiz has been collected will not be provided with the quiz or a make-up quiz, unless written documentation is obtained from the Office of Undergraduate Studies. Throughout the semester, quizzes may be administered on OAKS.

**Journal Article Presentation**
Each student will be assigned a partner to complete this assignment. Each team will be assigned a journal article addressing a course topic. The team will formulate 5 open-ended discussion questions as well as 5 multiple-choice questions related to the article’s content. All class students will complete these ten questions after reading the article. On an assigned date, the student team will lead the entire class in a brief, 10-minute discussion of the article during a class period. A word document containing the questions and their corresponding answers must be turned in to the instructor no later than 1 week prior to the presentation date.

**Journal Article Review Questions**
Various scholarly articles will be assigned throughout the semester to familiarize students with current research related to course content. Students will be assigned open-ended discussion as well as multiple-choice questions answer after/while reading the articles. Questions and their answers will be discussed in class and will also be collected and graded.

**Mini-meta-analysis Paper:**
Each student will be assigned a clinical questions or statement regarding the effectiveness and/or efficacy of a therapeutic modalities intervention. Each student will conduct a literature search to obtain ten topic related journal articles. Students will (1) submit a list of these references, formatted according to the requirements in the Journal of Athletic Training, (2) write a summary of each article following an assigned format, and (3) write a three page paper addressing the clinical questions. Details regarding these assignments will be provided in class.

**Laboratory Activities and Practical Examination**
A separate laboratory experience is provided to allow students to experience the various modalities discussed in class. A comprehensive practical examination designed to test knowledge and psychomotor skills related to therapeutic modality application gained over the entire semester will be given on the same date as the comprehensive written final examination. A separate syllabus detailing the specific requirements associated with the laboratory experience will be provided by the instructor. The points awarded in the laboratory portion of the class will be added with the points from the class activities to determine the final grade for the course.

**Course Policies**

**Examination Policy**
You will be notified at least one week in advance if there is a change in a test date. Please note that if you miss a scheduled examination you will earn zero (0) points for that particular examination. No make-up examinations will be given for a missed examination. If extreme,
unpreventable and unpredictable circumstances prevent you from attending an examination you should contact the course instructor as soon as possible. Consideration will be given on an individual case basis.

If you know you will be unable to attend an examination due to an excused absence (ie: athletic participation, professional conference, etc.) you must notify the instructor at least ten days prior to the absence.

**Late Work Policy**
All assigned work should be turned in at the beginning of class on the respective due date. Work submitted past this time (even on the due date) will have 20 percent of the total available points deducted for each calendar day, including weekend and holiday days.

**Required Technology**
1. Internet
2. OAKS
3. Microsoft Powerpoint
4. Microsoft Word

All the technology listed above can be accessed in the College of Charleston computer labs throughout campus. If you do not know how to use any of these computer applications you should arrange an appointment with the course instructor for tutoring.

**Attendance**
You are expected to attend all lectures and laboratory meetings. If extreme circumstances necessitate an absence you will be held responsible for the class material covered during your absence. Quizzes missed due to unexcused absences will not be re-administered. YOU ARE RESPONSIBLE FOR ALL INFORMATION COVERED AND REFERRED TO IN CLASS. If you know you will be missing a class it is your responsibility to make arrangements with the instructor in advance of the missed class.

**Personal Electronic Devices**
Personal electronic devices such as cell phones and other electronic devices are not permitted in class. Students needing to bring such devices to class must be sure the device is TURNED OFF (not set to vibrate) and secured inside a book-bag, purse, or pocket for the entire class time. Students using personal electronic devices during class time will be asked to leave the classroom for the remainder of the class meeting time.

**Disability Statement**
If there is a student in this class who has a documented disability and has been approved to receive accommodations through SNAP Services, the student should please feel free to come and discuss this with me during my office hours.

**Honor Code and Academic Integrity**
It is expected that each student in this class will conduct him or herself within the guidelines of the honor system. All academic work should be done with the highest level of honor and integrity that this institution demands. Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor Board for academic dishonesty will receive a XF in the course, indicating failure of the course due to academic dishonesty. This grade will appear on the student’s transcript for two years after which the student may petition for the X to be expunged. The student may also be placed on disciplinary probation, suspended (temporary removal) or expelled (permanent removal) from the College by the Honor Board. Students can find the complete Honor Code and all related processes in the Student Handbook at http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php