Rehabilitation of Athletic Injuries

I. COURSE DESCRIPTION
This course provides general knowledge of rehabilitation techniques for athletic injuries including goniometry, muscle testing, therapeutic exercise and the use of SOAP notes. Prerequisites: KINE 3318 (Prevention and Care of Athletic Injuries).

II. RATIONALE
Students interested in becoming a Certified Athletic Trainer (ATC) must complete a course in therapeutic exercise prior to applying to sit for the National Athletic Trainers’ Association Board of Certification (BOC) exam.

III. STATE ADOPTED PROFICIENCIES FOR TEACHER AND/OR ADMINISTRATOS/COUNSELORS- N/A
1. LEARNER-CENTERED KNOWLEDGE: The teacher possesses and draws on a rich knowledge base of content, pedagogy, and technology to provide relevant and meaningful learning experiences for all students.
2. LEARNER-CENTERED INSTRUCTION: To create a learner-centered community, the teacher collaboratively identifies needs; and plans, implements, and assesses instruction using technology and other resources.
3. EQUITY IN EXCELLENCE FOR ALL LEARNERS: The teacher responds appropriately to diverse groups of learners.
4. LEARNER-CENTERED COMMUNICATION: While acting as an advocate for all students and the school, the teacher demonstrates effective professional and interpersonal communication skills.
5. LEARNER-CENTERED PROFESSIONAL DEVELOPMENT: The teacher, as a reflective practitioner dedicated to all students’ success, demonstrates a commitment to learn, to improve the profession, and to maintain ethics and personal integrity.

IV. TExES COMPETENCIES
a. TExES Competencies: N/A
b. NATIONAL COMPETENCIES & PROFICIENCIES FOR ATHLETIC TRAINING (CAATE 4th Ed.)

Diagnosis Competencies Taught & Evaluated:
- DI-C5: Describe the principles and concepts of body movement including functional classification of joints, arthrokinematics, normal ranges of joint motion, joint action terminology, and muscle groups responsible for joint actions (prime movers, synergists), skeletal muscle contraction, and kinesthesia/proprionception.

Therapeutic Modalities Competencies Taught & Evaluated:
- TM-C1: Describe the physiological and pathological processes of trauma, wound healing and tissue repair and their implications on the selection and application of therapeutic modalities used in a treatment and/or rehabilitation program.
- TM-C8: Identify appropriate therapeutic modalities for the treatment and rehabilitation of injuries and illness.
- TM-C9: Describe the process/methods of assessing and reassessing the status of the patient using standard techniques and documentation strategies to determine appropriate treatment and rehabilitation and to evaluate readiness to return to the appropriate level of activity. This includes the ability to:
  - TM-C9a: Describe and interpret appropriate measurement and assessment procedures as they relate to the selection and application of therapeutic modalities.
  - TM-C9c: Interpret the results of injury assessment and determine an appropriate therapeutic modality program to return the patient to physical activity.
Exercise Competencies Taught & Evaluated:

- **EX-C1**: Describe the physiological and pathological processes of trauma, wound healing and tissue repair and their implications on the development, progression and implementation of a therapeutic exercise program.
- **EX-C2**: Describe the mechanical principles applied to the design and use of therapeutic exercise equipment and techniques (leverage, force, kinesiology and biomechanics).
- **EX-C3**: Describe common surgical techniques, pathology, and any subsequent anatomical alterations that may affect the implementation of a therapeutic exercise program.
- **EX-C4**: Describe the appropriate selection and application of therapeutic exercises taking the following into consideration:
  - **EX-C4a**: The physiological responses of the human body to trauma
  - **EX-C4b**: The physiological effects of inactivity and immobilization on the musculoskeletal, cardiovascular, nervous, and respiratory systems of the human body
  - **EX-C4c**: The anatomical and/or biomechanical alterations resulting from acute and chronic injury and improper mechanics
  - **EX-C4d**: The physiological adaptations induced by the various forms of therapeutic exercise, such as fast- versus slow-twitch muscle fibers
  - **EX-C4e**: The physiological responses of additional factors, such as age and disease
- **EX-C5**: Describe the indications, contraindications, theory, and principles for the incorporation and application of various contemporary therapeutic exercise equipment and techniques, including aquatic therapy, manual therapy and mobilization.
- **EX-C6**: Define the basic components of activity-specific rehabilitation goals, functional progressions, and functional outcomes in a therapeutic exercise program.
- **EX-C7**: Describe the process/methods of assessing and reassessing the status of the patient using standard techniques and documentation strategies in order to determine appropriate treatment and rehabilitation plans and to evaluate the readiness to return to the appropriate level of activity. This includes the ability to:
  - **EX-C7a**: Describe and interpret appropriate measurement and functional testing procedures as they relate to the selection and application of therapeutic exercise.
  - **EX-C7b**: Interpret objective measurement results (muscular strength/endurance, range of motion) as a basis for developing an individualized therapeutic exercise program.
  - **EX-C7c**: Interpret the results of a physical assessment and determine an appropriate therapeutic exercise program to return the patient to physical activity.
  - **EX-C7d**: Determine the appropriate therapeutic exercise program and appropriate therapeutic goals and objectives based on the initial assessment and frequent reassessments.
  - **EX-C7e**: Determine the criteria for progression and return to activity based on the level of functional outcomes.
  - **EX-C7f**: Describe appropriate methods of assessing progress in a therapeutic exercise program and interpret the results.
  - **EX-C7g**: Interpret physician notes, postoperative notes, and physician prescriptions as they pertain to a therapeutic exercise program.
  - **EX-C7h**: Describe appropriate medical documentation for recording progress in a therapeutic exercise program.
- **EX-C8**: Explain the effectiveness of taping, wrapping, bracing, and other supportive/protective methods for facilitation of safe progression to advanced therapeutic exercises and functional activities.
- **EX-C9**: Describe manufacturer’s, institutional, state and federal guidelines for the inspection and maintenance of therapeutic exercise equipment.

Exercise Proficiencies Taught:

- **EX-P1**: Assess a patient to determine specific therapeutic exercise indications, contraindications, and precautions.
- **EX-P2**: Obtain and interpret baseline and postexercise objective physical measurements to evaluate therapeutic exercise progression and interpret results.
• EX-P3: Inspect therapeutic exercise equipment to ensure safe operating condition.
• EX-P4: Demonstrate the appropriate application of contemporary therapeutic exercises and techniques according to evidence-based guidelines.
• EX-P5: Instruct the patient in proper techniques of commonly prescribed therapeutic exercises.
• EX-P6: Document rehabilitation goals, progression and functional outcomes.
• EX-P7: Perform a functional assessment for safe return to physical activity.

**Psychosocial Competencies Taught & Evaluated**

• PS-C1: Explain the psychosocial requirements (i.e., motivation and self-confidence) of various activities that relate to the readiness of the injured or ill individual to resume participation.
• PS-C3: Describe the motivational techniques that the athletic trainer must use during injury rehabilitation and reconditioning.
• PS-C6: Explain the importance of providing health care information to patients, parents/guardians, and others regarding the psychological and emotional well being of the patient.
• PS-C13: Describe the acceptance and grieving processes that follow a catastrophic event and the need for a psychological intervention and referral plan for all parties affected by the event.
• PS-C15: Describe the psychosocial factors that affect persistent pain perception (i.e., emotional state, locus of control, psychodynamic issues, sociocultural factors, and personal values and beliefs) and identify multidisciplinary approaches for managing patients with persistent pain.

**V. COURSE OBJECTIVES & OUTCOMES**

- Rehabilitation of Athletic Injuries Including
  - Upper Extremity
  - Lower Extremity
- Express the philosophy of rehabilitative process in a sports medicine environment
- Realize the importance of understanding the healing process, biomechanics, and the psychological aspects of a rehabilitation program
- Understand the physiological process of healing for a variety of tissue types
- Explain the role of systematic injury evaluation process in establishing a rehabilitation plan and treatment
- Understand the concept of using psychological buffers for stress management
- Explain progressive psychological reactions to injury, dependent on the length of rehabilitation
- Understand coping skills necessary for successful rehabilitation
- Understand the physiology and importance of reestablishing each of the following components during rehabilitation:
  - Neuromuscular Control
  - Range of Motion & Flexibility
  - Muscular Strength, Power & Endurance
  - Postural Stability & Balance
  - Cardiorespiratory Fitness
- Understand the procedure and demonstrate the use of the following rehabilitation tools:
  - Core Stabilization
  - Plyometrics
  - Open-versus Closed-Kinetic-Chain Exercise
  - Isokinetics
  - Joint Mobilization & Traction
  - PNF & other soft tissue mobilization
  - Aquatic Therapy
  - Functional Progressions & Functional Testing
- Understand general rehabilitation/medical terminology and the importance of documentation (SOAP notes)
- Develops a general rehabilitation protocol based on the type and severity of injury as well as the physiology of healing
VI. COURSE TOPICS
- Diagnosis
- Therapeutic Modalities
- Therapeutic Exercise
- Psychosocial Components

VII. INSTRUCTIONAL METHODS AND ACTIVITIES
A. **Traditional Experience:** The course will include lecture, discussions, demonstrations, and practical application of the information. Research papers on topics discussed in class will also be included.
B. **Clinical Experiences:** There will be some opportunity for hands-on learning in the form of mini-lab exercises.

VIII. EVALUATION AND GRADE ASSIGNMENT
A. Your grade in this class will be determined from a point percentage. Points will be given for written exams, quizzes, papers, homework and mini-labs. The grading scale is as follows:

- **Written Exams = 300 points (150 points each)**
- **Quizzes = ~100 points (10 points each)**
- **Presentation & Project = 150 points**
- **Mini-Labs = ~50 points (10 points each)**
- **Homework (Journal Reviews, Documentation, Algorithm) =~ 200 points**
- **Total possible = ~800 points**

B. Grading Scale:
- **90-100% = A**
- **80-89% = B**
- **70-79% = C**
- **60-69% = D**
- **Below 60 % = F**

A. **Final Exam:**
The final exam will be cumulative and will be held in accordance with the University’s final exam schedule (found on SAIL).
IX. CLASS SCHEDULE AND POLICIES

A. TENTATIVE COURSE SCHEDULE

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Chapter</th>
<th>Work Due</th>
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<tbody>
<tr>
<td>1/11</td>
<td>Introduction – Foundational Concepts</td>
<td>Ch 1</td>
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<tr>
<td>1/16</td>
<td>NO CLASS: Martin Luther King Day</td>
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<tr>
<td>1/18</td>
<td>Tissue Healing</td>
<td>SF Ch 2&amp;3/Ch 10</td>
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<tr>
<td>1/23</td>
<td>Tissue Healing</td>
<td>SF Ch 4&amp;5/Ch 10</td>
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<tr>
<td>1/25</td>
<td>Tissue Healing – Bone</td>
<td>SF Ch 6/Ch 11</td>
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<tr>
<td>1/30</td>
<td>Tissue Healing – Bone</td>
<td>SF Ch 6/Ch 11</td>
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<tr>
<td>2/1</td>
<td>Range of Motion</td>
<td>Ch 3</td>
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<td>2/6</td>
<td>Stretching</td>
<td>Ch 4</td>
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<td>2/9</td>
<td>Joint Mobilization</td>
<td>Ch 5</td>
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<td>2/14</td>
<td>Joint Mobilization</td>
<td>Ch 5</td>
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<td>2/16</td>
<td>Neuromuscular Control/Strengthening</td>
<td>Ch 6</td>
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<td>Strengthening/Resistance Exercise</td>
<td>Ch 6</td>
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<td>2/23</td>
<td>Strengthening/Resistance Exercise</td>
<td>Ch 6</td>
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<td>2/28</td>
<td>Strengthening/Resistance Exercise</td>
<td>Ch 6</td>
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<tr>
<td>3/2</td>
<td>Stresses and the Kinetic Chain</td>
<td>SF Ch 23</td>
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<td>3/7</td>
<td>Mid Term Review</td>
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<td>3/9</td>
<td>Mid-Term EXAM I</td>
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<td>3/14</td>
<td>SPRING BREAK</td>
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<td>3/16</td>
<td>SPRING BREAK</td>
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<td>3/21</td>
<td>Balance</td>
<td>Ch 8</td>
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<td>3/23</td>
<td>Stability</td>
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<td>3/28</td>
<td>Surgical Interventions</td>
<td>Ch 12</td>
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<td>3/30</td>
<td>Surgical Interventions</td>
<td>Ch 12</td>
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<td>4/4</td>
<td>Clinical Reasoning: Algorithm Approach</td>
<td>MI Ch 5</td>
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<td>4/6</td>
<td>Psychology of Rehabilitation</td>
<td>SF Ch 22</td>
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<td>4/11</td>
<td>Psychology of Rehabilitation</td>
<td>SF Ch 22</td>
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<td>4/13</td>
<td>Aerobic Exercise</td>
<td>Ch 7</td>
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<td>4/16</td>
<td>Aerobic Exercise</td>
<td>Ch 7</td>
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<td>4/18</td>
<td>Aquatic Therapy</td>
<td>Ch 9</td>
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<td>4/23</td>
<td>Aquatic Therapy (meet at pool)</td>
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<tr>
<td>4/25</td>
<td>Presentations</td>
<td>powerpoint due with citations</td>
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<td>4/30</td>
<td>Presentations</td>
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<td>TBA</td>
<td>Final Exam</td>
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B. CLASS POLICIES

Attendance, Schedule and Exams
The instructor reserves the right to change the schedule to cover all subjects thoroughly. Any changes in test dates will be announced in class at least one class prior to printed test date. Information presented in class may come from a source other than the textbooks. If you miss a class you need to obtain that material from a classmate or myself. It is to your benefit to attend class every day. No make-up tests will be given except under extreme circumstances. A physician’s note is necessary if you are ill. Those who know they will be missing an exam are required to speak with instructor in advance so that arrangements can be made to take the exam early. Attendance is STRONGLY encouraged. Class participation is STRONGLY encouraged, and points will be given based on participation in mini-labs.

Technology - Blackboard
Syllabi, schedule, e-mail and discussion are available for this course on the campus Blackboard. Grades will be updated and posted via Blackboard. Any questions about course materials and/or content should be directed
towards this on-line tool first. Announcements and e-mail will be sent by the instructor should there be any changes to the schedule (please check this often).

**Written Exams**
Two written exams will be given. Make-up exams will not be given unless the student is excused from class by the university (athletics etc.) or by a physician. Exams will be 150 points each and may include multiple choice, short answer and essay questions.

**Quizzes**
Quizzes may be unannounced. Make-up quizzes will not be given unless the student is excused from class by the university (athletes etc.) or by a physician. Quizzes will be brief (~10 points each) and may include multiple choice and/or short answer questions.

**Research Presentations**
Research Presentations will be given individually to the class. Presentations should cover your research topic, and demonstrations (visual aids are strongly encouraged). The presentation time should last no longer than 10min and should include sources cited in APA style format. Eight to ten journal articles and 2-3 books are required reference material. The last slide of your presentation should include the bibliography for your work.

**Mini-Labs**
Mini-Labs will take place during scheduled class time and will include hands-on applications of the materials covered during the lecture. Points are given based on participation.

**Homework**
Homework assignments will include reading the current literature in the area of rehabilitation of athletically related injuries. Summaries of readings should be cited using APA style formatting.

Any course work done during the scheduled class time (i.e. quizzes, minilabs, exams) must be done during the scheduled time. No make-up work will be given for absences unless the student is excused from class by the University or by a physician. If a student has circumstances beyond this, it is highly recommended that the student contact the Student Affairs office (x 2612).

**Academic Integrity/Plagiarism**
As per the university catalog, “university students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, forgery, or plagiarism. (Plagiarism is the presentation of the work of another as one’s own).

Penalties that may be applied to individual cases of academic dishonesty include one or more of the following:
1. Written reprimand.
2. Requirement to re-do work in question.
3. Requirement to submit additional work.
4. Lowering of grade on work in question;
5. Assigning grade of ‘F’ to work in question;
6. Assigning grade of ‘F’ for course;
7. Recommendation for more severe punishment

**Dropping a Class**
I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. Please consult with me before you decide to drop to be sure it is the best thing to do. Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Friday Mar 30, 2012 is the last day to drop a class with an automatic grade of “W” this term.
X. TEXTBOOKS
The textbooks adopted for this course are:

Required Text:

Recommended Text:

XI: BIBLIOGRAPHY


XII. GRADE APPEALS
As stated in University Rule 13.02.99.C2, Student Grade Appeals, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Rule 13.02.99.C2, Student Grade Appeals, and University Procedure 13.02.99.C2.01, Student

Grade Appeal Procedures. These documents are accessible through the University Rules Web site at [http://www.tamucc.edu/provost/university_rules/index.html](http://www.tamucc.edu/provost/university_rules/index.html). For assistance and/or guidance in the grade appeal process, students may contact the Office of Student Affairs.

XIII. DISABILITY ACCOMMODATIONS
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call or visit Disability Services at (361) 825-5816 in Corpus Christi Hall 116.

If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.