

**GEORGE MASON UNIVERSITY**  
**School of Recreation, Health and Tourism**

**ATEP 360 – Therapeutic Rehabilitation (3)**  
**Fall, 2010**

DAY/TIME:	M,W: 12:00 – 1:15PM	LOCATION:	Bull Run Hall #247
PROFESSOR:	Dr. Shane Caswell	EMAIL ADDRESS:	scaswell@gmu.edu
OFFICE LOCATION:	Bull Run Hall #208D	PHONE NUMBER:	703-993-4638
OFFICE HOURS:	M: 10:00AM – 11:45AM	FAX NUMBER:	703-993-2025

**PRE/CO-REQUISITES**

**Pre-requisites:** Formal acceptance to the professional phase of the ATEP; successful completion of ATEP 150, 180, 250, 255, 256, 260, 265, 266, 270; BIOL 124, 125; HEAL 110, 230; PHED 300; and, current Emergency Cardiac Care (ECC) certification.

**Co-requisites:** Concurrent enrollment in ATEP 365 and 366

**COURSE DESCRIPTION**

A study of the indications, contraindications, physiological effects, special programs, and resistance methods that are used in the prevention and rehabilitation of athletic injuries.

**COURSE OBJECTIVES**

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

1. Identify goals of rehabilitation.
2. Develop rehabilitative programs specific to joints and injuries.
3. Define long and short-term rehabilitative goals.
4. Identify flexibility techniques used in the prevention and rehabilitation of athletic injuries.
5. Identify muscular strength testing techniques.
6. Identify goniometric measurements for each joint.
7. Effectively perform special tests for individual joints.
8. Identify appropriate joint mobilization techniques for increased range of motion.
9. Effectively evaluate and assessment athletic injuries.
10. Describe therapeutic exercises used for specific athletic injuries.
11. Identify therapeutic exercise equipment, techniques and principles.
12. Identify the indications and contraindications of rehabilitative equipment.
13. Describe three phases of healing and incorporate therapeutic exercises.
14. Identify return to sport criteria and testing for each joint.
15. Effectively evaluate abnormal gait patterns.

**COURSE OVERVIEW**

The focus of this course is to develop the cognitive competencies necessary for the safe, effective, and evidenced-based application of therapeutic rehabilitation techniques 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, 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. It is the student's obligation to pursue any make-up work.

### Accreditation Standards

Upon completion of this course, students will meet the following Commission on Accreditation of Athletic Training Education (CAATE) competencies:

Code	Competency
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.
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### REQUIRED READINGS

1) Houglum, P (2005) *Therapeutic Exercise For Musculoskeletal Injuries*. 3rd ed. Champaign, IL: Human Kinetics Co.

### RECOMMENDED READINGS

1) Andrews, JR., Harrelson, GL., Wilk, KE. (2004) *Physical Rehabilitation of the Injured Athlete*. Philadelphia, PA: Saunders.

### EVALUATION

#### Examinations

Six examinations will be administered. The format of these examinations may be multiple choice, true/false, short answer, matching, fill in the blank, and/or essay type questions. Examinations may be computer based or be written. Examinations will cover material in the required and recommended textbooks, class notes, and activities completed during prior class sessions. The final examination will be cumulative and cover all course material.

#### Quizzes

20 quizzes will be given in class. Each quiz will test material covered in the assigned reading. Quizzes will be given in the first five minutes of class.

#### Class Project: Rehabilitation Case Report

The purpose of this assignment is to educate the learner in the process involved with writing and presenting a rehabilitation case report. Students are required to pick a patient that they have evaluated and treated from their clinical field experience and follow their rehabilitation process. More information will be provided separately. First draft due 4/3/10; Final draft due 5/3/2010.

#### Course Grading Scale

Evaluation type	Number	Points each	Total points
Quizzes	20	5	100
Written exams	5	50	250
Class project	1	75	75
Cumulative Final Exam	1	75	75
<b>TOTAL POINTS</b>			<b>500</b>

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

- A: 465 – 500 pts. (93%)
- A-: 450 – 464 pts (90%)
- B+: 435 – 449 pts. (87%)
- B: 415 – 434 pts. (83%)
- B-: 400 – 414 pts. (80%)
- C+: 385 – 399 pts. (77%)
- C: 365 – 384 pts. (73%)
- C-: 350 – 364 pts. (70%)
- D: 315 – 349 pts. (63%)
- F: < 315

## **MAKE-UP WORK**

There will be no make-up quizzes, class participation points, assignments, or exams unless an excused absence has been warranted. Students who must miss an examination, quiz or other assignment because of an excused absence must complete work on their first time back in class. It is the student's obligation to pursue any make-up work.



- ❖ All students are held to the standards of the George Mason University Honor Code [See <http://www.gmu.edu/catalog/apolicies/#Anchor12>]
- ❖ University policy states that all sound emitting devices shall be turned off during class unless otherwise authorized by the professor
- ❖ Students with disabilities who seek accommodations in a course must be registered with the Office of Disability Services (ODS) and inform the instructor, in writing, at the beginning of the semester [See [www.gmu.edu/student/drc](http://www.gmu.edu/student/drc)]
- ❖ For additional School of Recreation, Health, and Tourism information, please visit the website at <http://rht.gmu.edu>

## TENTATIVE COURSE SCHEDULE

DAY	DATE	COURSE TOPIC	ASSIGNMENT
1	1/20	Introduction to class – Basic concepts of rehabilitation	
2	1/25	Psychological aspects of impairment and patient assessment	Chapter 1 & 4
3	1/27	Pathomechanics and Healing	Chapter 2 & 3
4	2/1	Pathophysiological models of disablement and impairment	Assigned
5	2/3	Basic principles of motor learning	Assigned
6	2/8	Examination #1	
7	2/10	Rehabilitation Concepts & Techniques Range of motion & flexibility	Chapter 5
8	2/15	Rehabilitation Concepts & Techniques— Strength and endurance	Chapter 7
9	2/17	Rehabilitation Concepts & Techniques— Proprioception	Chapter 8
10	2/22	Rehabilitation Concepts & Techniques— Plyometrics	Chapter 9
11	2/24	Examination #2	
12	3/1	Rehabilitation Concepts & Techniques— Posture and Ambulation	Chapter 11& 12
13	3/3	Rehabilitation Concepts & Techniques— Manual therapies	Chapter 6
		<i>3/8 to 3/14 — No Classes Spring Break</i>	
14	3/15	Rehabilitation Concepts & Techniques— Aquatic therapy	Chapter 13
15	3/17	Rehabilitation Concepts & Techniques— Functional exercise & testing	Chapter 10
16	3/22	Examination #3	
17	3/24	Rehabilitation considerations — Shoulder and Arm	Chapter 17
18	3/29	Rehabilitation considerations — Shoulder and Arm	Chapter 17
19	3/31	Rehabilitation considerations — Elbow and forearm	Chapter 18
20	4/5	Rehabilitation considerations — Wrist and hand	Chapter 19
21	4/7	Examination #4	
22	4/12	Rehabilitation considerations — Spine and SI joint	Chapter 20
23	4/14	Rehabilitation considerations — Hip	Chapter 21
24	4/19	Rehabilitation considerations — Knee and Thigh	Chapter 22
25	4/21	Rehabilitation considerations — Foot, ankle, and lower leg	Chapter 16
26	4/26	Examination #5	
27	4/28	Special Topic	
28	5/3	Special Topic	
29	5/10	<b><i>Final Examination 10:30am to 1:15pm</i></b>	

*Note: Faculty reserves the right to alter the schedule as necessary*