

**Midwestern State University**  
**Department of Athletic Training and Exercise Physiology**  
**EXPH 5083 Science Behind Injury & Rehabilitation (3 Credit)**

**Instructor:** Michael W. Olson, Ph.D.  
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**Office Hours:** By appointment

**Course Meeting Time:** Online/Virtual

**Important Dates:**

First day of Class:	Monday, January 10
Exam I (midterm):	Tuesday, March 3
Exam II (Final):	Tuesday, May 2

**Texts/Materials:**

There will be no specified text required for the course. Relevant reading materials for each class session will be provided in the form of research articles and selected book chapters through Desire2Learn.

**Course Description:**

This online course is designed to develop knowledge regarding specific noted injuries (i.e., acute, chronic), theory and clinical application of injury rehabilitation and therapeutic exercise used for exercise physiologists to restore patients, clients, athletes and other physically active individuals to their pre-injury levels of fitness, strength, power, endurance and speed.

**Course Objectives:**

- Students will demonstrate through discussion and written evaluations the etiology and mechanisms of physical injury or trauma.
- Students will demonstrate through discussion and written evaluations the theoretical concepts, components and phases of a rehabilitation program.
- Students will demonstrate through discussion and written evaluations the indications and contraindications of therapeutic exercises, as well as the progress of the rehabilitation protocol.
- Students will demonstrate through discussion and written evaluations the process of implementing a therapeutic exercise protocol, assess the patients progress and make changes when needed to progress the recovery and return to activity.
- Students will demonstrate through discussion and written evaluation the role of surgery in the repair/modification of bone/tissue to facilitate the return of the patient to activity.

**Course Evaluation:**

Exam I	25%
Exam II	25%
Exam III	25%
Assignments	25%

**Grading Scale:**      **A:  $\geq 90$ ; B: 89.99 – 80; C: 79.99 – 70**

**Examinations:**

There will be three examinations during the semester. The format of these examinations will be primarily essay incorporating material from previously presented readings/power points. Application questions may also be included to test each student's critical thinking. The exams will be worth 75% of the overall course grade.

**Assignments:**

Selected readings from the literature will be provided weekly. It is the responsibility of the student to read each assigned article. For each reading/article, there will be a list of questions which need to be answered for credit to be awarded. The questions will be relevant to the methodology, results, and discussion points of the readings. The questions will be provided at the beginning of each week along with the corresponding articles. The answers to each of the questions will be due at the end of the respective week. Each assignment will be worth 20 points, while being worth 25% of the overall course grade.

**Tentative Topics**

The Etiology of Musculoskeletal Disorders and Trauma Overview

Trauma, Injury, and Pain in the Trunk and Neck

Mechanisms of Soft Tissue Damage and Rehabilitation

Common Lower Extremity Injuries and Rehabilitation

Common Upper Extremity Injuries and Rehabilitation