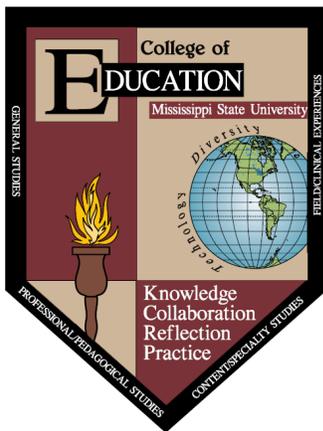


**MISSISSIPPI STATE UNIVERSITY
COLLEGE OF EDUCATION**

**DEPARTMENT of KINESIOLOGY
COURSE SYLLABUS**

Course Prefix & Number:	KI 3633
Course Title:	Rehabilitation Techniques
Credit Hours:	Three (3) semester hours
Course Type:	Lecture/Lab
Catalog Description:	Two hours of lecture/two hours laboratory. Investigate aspects of physiotherapy utilized in treatment of injuries. Course will be supported with assistance of Oktibbeha County Hospital.

College of Education Conceptual Framework:



The faculty in the College of Education at Mississippi State University are committed to assuring the success of students and graduates by providing superior learning opportunities that are continually improved as society, schools, and technology change. The organizing theme for the conceptual framework for the College of Education at Mississippi State University is educational professionals - dedicated to continual improvement of all students' educational experiences. The beliefs that guide program development are as follows:

1. **KNOWLEDGE** - Educational professionals must have a deep understanding of the organizing concepts, processes, and attitudes that comprise their chosen disciplinary knowledge base, the pedagogical knowledge base, and the pedagogical content knowledge base. They must also know how to complement these knowledge bases with the appropriate use of technology.
2. **COLLABORATION** - Educational professionals must continually seek opportunities to work together, learn from one another, forge partnerships, and assume positions of responsibility.
3. **REFLECTION** - Educational professionals must be willing to assess their own strengths and weaknesses through reflection. They must also possess the skills, behaviors, and attitudes necessary to learn, change, and grow as life-long learners.
4. **PRACTICE** - Educational professionals must have a rich repertoire of research-based strategies for instruction, assessment, and the use of technologies. They must be able to focus

that array of skills on promoting authentic learning by all students or clients, while exhibiting an appreciation and commitment to the value and role of diversity.

Course Objectives:

1. Develop a safe work environment in order to prevent injuries. CFPO #1, 3, 4, 6, 7
2. Explore initial management techniques for sports injuries. CFPO # 1, # 3, # 4, # 7
3. Design short-term rehabilitation programs for individuals with varying injuries and needs and use appropriate treatment equipment. CFPO #1, 2, 3, 4, 5, 6, 7, 10
4. Understand long-term rehabilitation programs for individuals with varying injuries and needs and use appropriate treatment equipment. CFPO #1, 2, 3, 4, 5, 6, 7, 10
5. Assess alterations and evaluate progressions of a rehabilitation program. CFPO #1, 2, 3, 4, 6, 7

Topical to Be Covered:

Lecture

1. The Healing Process and the Pathophysiology (3 hours)
 - Pathophysiology of healing relative to various body tissues
 - Initial management of injuries
 - Managing the healing process through rehabilitation
2. Rehabilitation Goals in Sports Therapy (3 hours)
 - Objectives
 - Injury prevention
 - Initial evaluation, treatment, and rehabilitation
3. Muscular Strength and Endurance (3 hours)
 - Types of skeletal muscle contractions
 - Determinants of force generation
 - Physiology of strength development
 - Training for muscular strength vs. muscular endurance
4. Plyometric Exercise in Rehabilitation (3 hours)
 - Biomechanical and physiological principles
 - Program development
 - Integrating plyometrics into the rehabilitation program
5. Closed-Kinetic Chain Exercise (3 hours)
 - Concept of the kinetic chain
 - Biomechanics of closed-kinetic chain exercises
 - Functional aspects of closed-kinetic chain exercise
 - Uses of closed-kinetic chain exercises for the lower extremity
 - Closed-kinetic chain exercise in rehabilitation of the upper extremity
6. Reestablishing Proprioception, Kinesthesia, Joint Position, Neuromuscular Control in Rehabilitation (3 hours)

- Joint and muscle neural receptors
- Neuromuscular proprioception
- 7. Functional Progression in Rehabilitation (3 hours)
 - Role of functional progressions in rehabilitation
 - Benefits of using functional progressions
 - Components of functional progressions
- 8. Aquatic therapy in Rehabilitation (3 hours)
 - Physical properties and resistive forces
 - Advantages of aquatic rehabilitation
 - Disadvantages of aquatic rehabilitation
 - Techniques
- 9. Therapeutic Modalities in Rehabilitation (3 hours)
 - Electrical stimulating currents
 - Diathermy
 - Ultrasound
 - Intermittent compression
 - Indications and contraindications
- 10. Clavicular injuries (10 hours)
 - Acromioclavicular joint injuries
 - Brachial plexus injuries
 - Thoracic outlet syndrome

Laboratory

1. Maintaining and Improving Flexibility (3 hours)
 - Limiting factors of flexibility
 - Active and passive range of motion
 - Neurological basis of stretching
 - Practical application
 - The relationship of strength and flexibility
 - Guidelines and precautions for stretching
2. Rehabilitation of the Lower Leg and Ankle (3 hours)
 - Mechanisms of injury
 - Treatment
 - Rehabilitation techniques
3. Rehabilitation of the Foot (3 hours)
 - Mid-tarsal joint
 - Pronation
 - Shoe selection
 - Orthotics
 - Pathologies of the foot
4. Rehabilitation of the Knee (3 hours)
 - General principles

- Rehabilitation considerations for various knee injuries
- Rehabilitation techniques
- 5. Rehabilitation of the Hip and Thigh Injuries (3 hours)
 - Hip pointers
 - Injury to the iliac spine
 - Piriformis syndrome sciatica
 - Hip dislocations
 - Hamstring injuries
 - Quadriceps muscle strains
- 6. Rehabilitation of Elbow, Hand, and Wrist (3 hours)
 - Managing restricted motion at the elbow
 - Managing joint laxity of the elbow
 - Types of elbow injuries
 - Wrist injuries
 - Hand injuries
- 7. Rehabilitation of Shoulder Injuries (6 hours)
 - Impingement syndrome
 - Subacromial decompression
- 8. Back Rehabilitation (6 hours)
 - Acute vs. chronic back pain
 - Acute stage, reinjury stage, chronic stage
 - Rehabilitation techniques for specific low back condition

Textbook:

Kisner, C. & Colby, L. (2002). *Therapeutic exercise: Foundations & techniques* (4th ed.). Philadelphia, PA: F.A. Davis.

Methods of Instruction:

Lecture/lab

Suggested Student Activities:

1. Attend all lectures and participate in classroom discussions. (Objectives 1-5)
2. Complete the class project by designing a rehabilitation program and making the class presentation. (Objectives 1-5)
3. Complete observation hours at the county hospital physical therapy department. (Objectives 1-5)

MSU Honor Code:

Mississippi State University has an approved Honor Code that applies to all students. The code

is as follows:

“As a Mississippi State University student I will conduct myself with honor and integrity at all times. I will not lie, cheat, or steal, nor will I accept the actions of those who do.”

Upon accepting admission to Mississippi State University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor Code. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the MSU community from the requirements or the processes of the Honor Code. For additional information please visit: <http://www.msstate.edu/dept/audit/1207A.html>. Honesty and integrity are expected of every student. All occurrences of academic misconduct will be dealt with in accordance with the guidelines and procedures outlined in the Academic Misconduct Policy. Additional university policies related to students can be accessed at: http://www.msstate.edu/web/student_policies.html.

Technology: Not an aspect of this course.

Diversity: Not an aspect of this course.

Disability Statement: It is the policy of Mississippi State University to accommodate students with special needs and learning disabilities as per the MSU Student Support Services policy. Students seeking accommodations on the basis of a disability or special need must identify themselves to the Office of Student Support Services (website: <http://www.msstate.edu/dept/sss/>) to verify eligibility. Additional documentation guidelines may be obtained by contacting the Office of Student Support Services (325-3335). Academic accommodations and services are based upon an individual’s needs. All documentation is confidential.

Field Component: Not an aspect of this course.

Assessment of Concepts and Skills/Evaluation of Student Progress:

Mid-term examination	100 points	20%
Term paper	100 points	20%
Daily quizzes	100 points	20%
Final examination	<u>200 points</u>	<u>40%</u>
Total	500 points	100%

Total points earned by each student will be summed at the end of the semester for a grand total. This grand total will be divided by the total points possible, yielding a percent of the total points possible. The grade at the end of the term is based on its percentage. The grade breakdown is as follows:

A = 90 - 100%
B = 80 - 89%
C = 70 - 79%
D = 60 - 69%
F = Below 60%

Bibliography:

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- Brotzman, B. S. (2003). *Clinical orthopedic rehabilitation* (2nd ed.). Philadelphia, PA: Mosby.
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- Cole, A. & Becker, B. (2004). *Comprehensive aquatic therapy* (2nd ed.). Philadelphia, PA: Butterworth- Heinemann.
- Cramer, G., & Darby, S. (2005). *Basic and clinical anatomy of the spine and spinal cord* (2nd ed.). Philadelphia, PA: Mosby.
- Donatelli, R. (2004). *Physical therapy of the shoulder* (4th ed.). Philadelphia, PA: Churchill Livingstone.
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- Evans, R. C. (2001). *Orthopedic physical assessment* (2nd ed.) Philadelphia, PA: Mosby.
- Fritz, S. (2004). *Fundamentals of therapeutic massage* (3rd ed). Philadelphia, PA: Mosby.
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