

**MISSISSIPPI STATE UNIVERSITY
COLLEGE OF EDUCATION**

**DEPARTMENT of KINESIOLOGY
COURSE SYLLABUS**

Course Prefix & Number: PE 1171

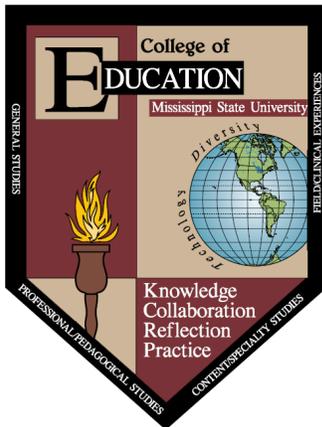
Course Title: Strength and Conditioning

Credit Hours: One (1) semester hour

Course Type: Activity

Catalog Description: Two hours laboratory. This course is designed to provide a comprehensive overview of strength and conditioning techniques and principles for the design of a personal fitness program.

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. Demonstrate an understanding of the importance of a strength and conditioning as it relates to increasing an individual's quality of life. **InTASC # 1; CFPO # 3.**
2. Demonstrate the ability to perform common strength training exercises with proper form, identifying the muscles utilized during the movement. **InTASC # 1; CFPO # 3.**
3. Demonstrate the ability to perform basic plyometric exercises and relate the benefits of each movement performed. **InTASC # 1; CFPO # 3.**
4. Demonstrate an understanding of recovery time from strength and conditioning exercises and implement ways to mitigate injuries during training. **InTASC # 1; CFPO # 3.**
5. Develop and implement an efficient, effective and safe strength and conditioning program. **InTASC # 1; CFPO # 3.**
6. Develop and implement personal mission statement, goal and objectives for strength and conditioning. **InTASC # 1; CFPO # 3.**
7. Identify, develop and implement an effective flexibility program. **InTASC # 1; CFPO # 3.**
8. Demonstrate an understanding of training periodization. **InTASC # 1; CFPO # 3.**

Topics to Be Covered:

1. Overview of Strength and Conditioning (3 hours)
2. Test Administration (2 hours)
3. Warm-up and Flexibility (2 hours)
4. Resistance Exercise Techniques and Spotting (5 hours)
5. Strength and Conditioning for Sport (5 hours)
6. Improving Aerobic Performance (5 hours)
7. Plyometric, Speed, and Agility Exercise Prescription (3 hours)
8. Principles of Safety (2 hours)
9. Training Variation Periodization (3 hours)

Textbook: None

Methods of Instruction: Lab/activity sessions

Suggested Student Activities:

1. Students will measure resting and exercise heart rate. # 1
2. Students will measure muscular one repetition maximum strength. #3
3. Students will measure muscular endurance during resistance exercise. #3
4. Students will demonstrate proper techniques of spotting. #1,2,5
5. Students will demonstrate proper form when performing resistance exercise. #2,5
6. Students will demonstrate proper techniques when performing upper and lower body flexibility (range of motion). #7
7. Students will demonstrate proper form when performing plyometric exercise. #3
8. Students will demonstrate the ability to properly load various training equipment in the weight facility. #4,5,6
9. Students will log all of their training activities in their training journal. #6,8

Student Dress

Students need to come to lab dressed appropriately for exercise. This entails wearing appropriate clothing, such as t-shirts and shorts or warm-up pants, and sports bras for females.

Footwear should consist of tennis shoes with closed (covered) toes (and mid-foot) and an enclosed heel (you must be able to run and jump in the shoes without them falling off.) For certain labs, other instructions may be given regarding attire. Failure to wear appropriate clothing will result in a 5 point deduction from the total points of the semester.

MSU Honor Code:

"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."

The Mississippi State Honor Code can be found at <http://www.honorcode.msstate.edu/>.

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 directly (662-325-3335), or via the web at <http://www.msstate.edu/dept/audit/91130.html>. Academic accommodations and services are based upon an individual’s needs. All documentation is confidential.

Field Component: This course does not have a field component.

Evaluation of Student Progress:

Two written exams (200 pts.) & training journal (100 pts.)
Exams will be dispersed and taken through myCourses

If you are having any general computer problems you should visit the IT Help Desk located in 108 Allen Hall (8:00 A.M. to 5:00 P.M.) for assistance. Also make these problems known to the course instructor.

2 Exams (200 points) and Journal (100 points) :	<u>Grading scale:</u> 90 - 100% = A, 270 - 300 80 - 89% = B, 240 - 269
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Total Points is 300	70 - 79% = C, 210 - 239 60 - 69% = D, 180 - 209 59 and below = F, > 179
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Bibliography:

Delavier, F., Clemenceau, J.P., & Gundill, M. (2012). *Delavier's Stretching Anatomy*. Human Kinetics, Champagne, IL.

Enoka, R.M. (1997). Neural adaptations with chronic physical activity. (1997). *Journal of Biomechanics*, 30, 447-455.

Fleisig, G., Chu, Y., Weber, A., & Andrews, J. (2009). Variability in baseball pitching biomechanics among various levels of competition. *Sports Biomechanics*, 8, 10-21.

Mok, K.M., Fong, D.T., Krosshaug, T., Engebresten, L., Hung, A.S., Yung, P.S., Chan, K.M. (2011). Kinematics analysis of ankle inversion Ligamentous sprain injuries in sports: 2 cases during the 2008 Beijing Olympics. *American Journal of Sports Medicine*, 39, 1548-1552.

Myers, C.A., & Hawkins, D. (2010). Alterations to movement mechanics can greatly reduce anterior cruciate ligament loading without reducing performance. *Journal of Biomechanics*, 43, 2657-2664.

Tidus, P. (2008). *Skeletal Muscle Damage and Repair*. Human Kinetics, Champagne, IL.

Weinhandl, J.T., Joshi, M., & O'Conner, K.M. (2010). Gender comparisons between unilateral and bilateral landings. *Journal of Applied Biomechanics*, 26, 444-453.