I.COURSE TITLE: PED 113 Shallow Water Walking (**Power Rapids)** 1 hour PED credit Instructor: Pam Milling ofc: 601-925-3491 deck: 601-925-3492 milling@mc.edu

II. PREREQUISITES: Vertical exercise in strong current that produces whirlpool effects and requires swimming ability. Water shoes required for comfort, traction, and safety.

III. COURSE DESCRIPTION: This course teaches different methods and the benefits of walking in water while providing experience for students. With breathing rate in the proper range on the RPE scale, it encourages weight management. Water walking promotes balance, coordination, and flexibility. Depending on the height of the individual, water walking is accomplished in waist deep to shoulder deep water and can be a lifetime activity. Different ways to water walk will consist of forward, backward, and sideward moves involving submerged muscles/limbs and includes:

Warm up: Begin slow increasing to medium speed reaching the main set.
Main set: Progressively intensifying the water walk.
Cool down: Walking gently giving the body a chance to recover.
Stretching: Holding each stretch for 15-30 seconds giving time for the muscle spindle to habituate and gradually training the stretch receptor to allow greater lengthening of the muscle.

IV. RATIONALE: This course is compatible with the mission of Mississippi College, a Christian college because of the value placed on stimulating physical development. Walking in water is preferred by physicians since the water's natural qualities give the participant extra benefits, for example: exercises translated to a water medium provide greater benefits to the heart, lungs, and circulation. Because of buoyancy/resistance water walking has quite a variety of different steps initiating the use of more muscles than walking on land. It is a healthy way to exercise and increases the components of physical fitness. It also gives therapeutic advantages while reduces the risk of injury. The following benefits are listed in the AKWA and the AEA Aquatic Fitness Research Journal:

A. Water walking exercises use the water principles in two ways. It is a light <u>weight bearing</u> exercise (C) walking in opposite direction of the currents of the water, and it is also a <u>non-weight bearing</u> exercise using buoyancy (B).
B. Impact to the body while walking in water is less since body weight is reduced depending on the depth of the water; waist deep by 50%, chest deep by 70%, shoulder/neck depth by 80%-90%. Risk of injury is minimal.
C. Water walking is most effective for increasing muscle density and involves both agonist and antagonist muscles. The constant pressure of resistance exerted evenly in all directions makes water ideal for working opposing muscle groups more equally. This type of exercise is excellent for increasing strength and the endurance level for land sports.
D. Walkers in water depths (waist to mid chest) show significantly higher VO_2 demand greater for lower extremity exercise in water than on land.
E. Pushing muscles against the swirling water increases the action of the fast twitch fibers which can grow two times as large with proper training.

F. The properties of the water help to increase flexibility and range of motion while increasing muscle strength. A flexible and strong muscle can deliver more explosive power on land.
G. The water pressures place a subtle compression on vessels and help increase blood circulation while eliminating edema.

V. LEARNING OBJECTIVES AND OUTCOMES: Upon course completion a student will:

A. Feel better by having increased wellness with a better understanding of water walking.
B. Have improved strength and endurance to perform not only water exercises but also land exercises.
C. Gain knowledge of the benefits of water walking which may be used as a lifetime exercise.
D. Have had an opportunity to develop interpersonal relationships while providing fun and enjoyment during this course.
E. Discover the use of resistive equipment for increasing the water workout.

VI. ACADEMIC INTEGRITY: It is expected that a student attending Mississippi College will be scrupulously honest. Therefore, plagiarism and cheating will be dealt with in accordance with the policies of the university. These policies are stated in the current Undergraduate Bulletin, Policy 2.19.

VII. COURSE TOPICS: The major topics to be considered are:

A. Shallow water walking benefits
B. Differences in water fitness and swimming
C. Aquatic temperatures
D. Aquatic chemicals

VIII. INSTRUCTIONAL METHODS: Instructional procedures will include:

A. Explanation of shallow water walking benefits, aquatic temperatures, and chemicals.
B. Demonstration of different ways to water walk including proper body alignment.
C. Demonstration and explanation for use of the following types of equipment:
   1. Cuffs
   2. Bells
   3. Buoyancy belt
   4. Buoyancy saddle
   5. Seahorses
   6. Water steps
   7. Hydrorider professional bike (water shoes required)
   8. Hydrorider professional treadmill (water shoes required)
D. Determining the body's breathing rate related to exercise intensity through the Rate of Perceived Exertion (RPE) scale with explanation of warning signals alerting the body to slow down.
E. Explanation and demonstration of water fitness stretching.
F. Water Walking DVD's
G. Explanation of a water walk assessment which will be administered at the beginning and end of the semester to determine gains in water fitness. Private appointments may be set to assess student progress.

H. For variety, water volleyball (anaerobic activity) will be explained and played on a voluntary basis during the semester.
I. A sample of the following will be demonstrated and explained during mid semester for the student to have a well rounded water fitness education of vertical exercises to be used for volume training: Water Aerobics, Deep Water Running, Liquid Abs and Deep Core, Oodles of Work, Aqua Power Step, Splash Plyometrics, and Dynamic Stretching.
J. Proper breathing techniques will be discussed.
K. If lightening is occurring during class time or the pool is experiencing equipment problems, the class will meet on deck for a stretching program.
L. During any emergency follow the directions of the Lifeguard such as, if alarm sounds all must exit building.

IX. ASSIGNMENTS:

Students will complete a medical health questionnaire on the first day of class. Private appointments will be set if necessary. For safety purposes, differentiation must be made for pool space and type of equipment with the following considerations:

A. Normal joints vs impaired joints
B. Negative buoyancy vs positive buoyancy
C. Height of individual
D. Novice swimmer vs advanced swimmer

This will be accomplished during the first class meeting by discussion and explanation.
A Water Walk Assessment will be administered at the beginning of the semester to establish
a comparison factor for the second one given during the latter part of the semester.

X. EVALUATION: Class participation is required. Evaluation will be based on recorded attendance, participation, assessments, etc. The student will receive a grade of Credit or No Credit for the course.
Non-participation in water exercises will not be condoned without a doctor's or instructor's approval.

XI. OTHER COURSE INFORMATION:

A. FITNESS TEST/ SKILLS ASSESSMENTS: A water walk assessment will be administered at
the beginning of the semester to establish a comparison factor for the second one given at the end of the semester.
B. ABSENCES: During fall and spring semesters a student is allowed **2** absences for activity
classes. Should a student obtain the third absence, he/she will not receive credit for the course.
A limited number of make-ups will be allowed for emergencies. See the instructor for schedule.
C. SPECIAL ACCOMMODATIONS: In order for a student to receive disability accommodations
under Section 504 of the Americans with Disabilities Act, he or she must schedule an individual meeting with the Director of Student Counseling
Services **immediately upon recognition of their disability** (if their disability is known they must come in before the semester begins or make an
appointment **immediately** upon receipt of their syllabi for the new semester). The student must bring with them written documentation from a medical physician and/or

licensed clinician that verifies their disability. If the student has received prior accommodations, they must bring written documentation of those accommodations (example Individualized Education Plan from the school system). Documentation must be current (**within 3 years).**The student must meet with SCS **face-to face** and also attend two (2) additional follow up meetings (one mid semester before or after midterm examinations and the last one at the end of the semester). Please note that the student may also schedule additional meetings as needed for support through SCS as they work with their professor throughout the semester. Note: Students must come in **each semester** to complete their Individualized Accommodation Plan (example: MC student completes fall semester IAP plan and even if student is a continuing student for the spring semester they must come in again to complete their spring semester IAP plan). Student Counseling Services is located on Alumni Hall 4th floor or they may be contacted via email at MBryant@mc.edu or RWard@mc.edu . You may also reach them by phone # **601-925-7790.**

D. Tuition refunds will not be made to students who drop a class after the first week.

XII. INSTRUCTIONAL MATERIALS AND BIBLIOGRAPHY:

Text: None

Contemporary reference books:

Aquatic exercise association manual. (2013). Nokomis, FL: AEA.
Alexander, Christine. (2011). Water Fitness Lesson Plans and Choreography. Human Kinetics.

Classic reference books:

Baum, G. (1998). Aquarobics - the training manual. W.B. Saunders.
Elder, T., & Campbell, K. (1993). Aquatic fitness everyone. Ed. D. Hunter Textbooks.
Gibson, T. S., & Hoeger, W. K. (1999). Water for fitness and wellness. Morton.
Soft workouts. (1988). Alexandria, VA: Time-Life Books.

DVD's:

Milling, Pamela G. (2013). When water moves miracles happen
1. Aqua power step.
2. Athletic conditioning.
3. Deep water running.
4. Water aerobics.
5. Water walking.

PUBLICATIONS:

Milling, Pamela G. (2013 May). Update bone density revelation. www.mc.edu/water-fitness
Milling, Pamela G. (2013 May). Highlights on the importance of alkalinity. www.mc.edu/water-fitness
Milling, Pamela G. (2013. January). One Degree. www.mc.edu/water-fitness
Milling, Pamela G. (2012. April). Bone density revelation. www.aeawave.com/news&more/healthynews.
Milling, Pamela G. and Ward PhD, Rob. (2011, April/May). Water fitness for athletes education and performance benefits. AKWA Magazine.

Sova, R. (1994, February). Why use rpe? AKWA letter.
Sova, R. (1992, December). Water walking. AKWA letter.

WEBSITE:

http://www.mc.edu/water-fitness
http://www.mc.edu/FACULTY/Milling,Pamela