I. **COURSE TITLE:** PED 110 **Aqua Power Step** 1 hour PED credit

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II. **PREREQUISITES:** Requires swimming ability for suspended exercises. Water shoes required for comfort, traction, and safety.

III. **COURSE DESCRIPTION:** This course is outlined to teach the benefits of exercising at an elevated level of intensity in shallow water. Aqua power step is an effective method to improve cardiovascular fitness by creating a greater demand on lower body muscles. This course provides multi-directional resistance using buoyancy as a support for an intense exercise to be performed with less impact.

IV. **RATIONALE:** This course is compatible with the mission of Mississippi College, a Christian college, because of the value placed on stimulating physical development. Aqua power step is a vertical shallow water exercise providing aerobic activity. It is the safest way to exercise using benches. Aqua power step is a successful technique for building strength in the upper and lower body and is designed for the conditioned student. It is a power workout implementing water principles, equipment and moves which are used to increase the resistance of the water; thereby, increasing the intensity of the workout. Aqua power step provides an excellent cardiovascular workout which enhances body rejuvenation through deep breathing and concentrated movements. This course will increase the fitness level of the student in shallow water through the following benefits and principles listed in AKWA and the AEA Aquatic Fitness Research Journal.

A. Principles: in aqua power step, nine (9) principles will be used to increase resistance encouraging strength training.

1. Speed.
2. Range of motion.
3. Length of lever.
4. Eddy resistance.
5. Cupped hand.
6. Frontal plane.
7. Inertia.
8. Combined muscle groups.
9. Muscle isolation/joint stability.

B. Equipment: aqua steps and other optional equipment will be used to amplify the workout intensity which results in an extra demand placed on the upper and lower body muscles increasing oxygen requirement.

C. Moves: neutrality, rebounding, and suspension used interchangeably increase the workout intensity by using multi-directional resistance. The churning water creates a more difficult workout environment; thus with continued usage, promotes muscle strengthening and increases the endurance level during land sports.

D. Due to the natural qualities of the water, benefits include:

1. Circulation improvement.
2. Muscles pairs developed more evenly.
3. Joints move easier.
4. Impact to body reduced.

5. Muscles toned.
6. Flexibility improved.
7. Risk of injury red reduced.
8. Light weight bearing exercises

E. Aqua power step will provide an excellent cross-training opportunity for the student in search of shallow water fitness activity.

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

A. Have improved physical fitness and increased endurance, flexibility, and agility during land performance.
B. Have gained knowledge of water fitness principles.
C. Have gained knowledge of the benefits of aqua power step.
D. Have had an opportunity to develop interpersonal relationships while providing fun and enjoyment during this course.

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 aqua power step benefits
B. Aquatic temperatures
C. Aquatic chemicals

VIII. INSTRUCTIONAL METHODS: Instructional procedures will include:

A. Explanation of shallow aqua power step benefits, aquatic temperatures, and chemicals.
B. Demonstration of proper body alignment and movement for water fitness exercises and stretches.
C. Demonstration and explanation for use of the following types of equipment:
   1. Cuffs
   2. Bells
   3. Buoyancy belt
   4. Webs
   5. Seahorses
   6. Hydrorider professional bike (water shoes required)
   7. Water steps
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. Aqua Power Step DVD's.
F. 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.
G. For variety, water volleyball (anaerobic activity) will be explained and played on a voluntary basis during the semester.

H. 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 Walking, Deep Water Running, Liquid Abs, Oodles of Work, Water Aerobics, Splash Plyometrics, and Dynamic Stretching.
I. Proper breathing techniques will be discussed.
J. If lightening is occurring during class time or the pool is experiencing equipment problems, the class will meet on deck for a stretching program which includes water fitness messages using caricatures.
K. 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. Negative buoyancy vs positive buoyancy.
B. Beginner exerciser vs experienced exerciser
C. Novice swimmer vs advanced swimmer
C. Normal joints vs impaired joints
D. Height of individual.

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 during the latter part of the semester.
B. ABSENCES: During fall and spring semesters a student is allowed two (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 in Alumni Hall Room #4 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. (2012). Nokomis, FL: AEA.
Alexander, Christine. (2011). Water Fitness Lesson Plans and Choreography. Human Kinetics.

Classic reference books:

Baum, Glenda. (1998). Aquarobics-the training manual. W.B. Saunders.
Gibson, Terry-Ann Spitzer and Hoeger, Werner W. K. (1999). Water for fitness and wellness.

DVD's:

Milling, Pamela G. (2012). 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. (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.
Brossman, Steve. (1992). Hi voltage wet –n-steppin. Water Fitness #429-032.
Sova, Ruth. (1993, August). To step or not to step. AKWA letter.
Sova, Ruth. (1994, February). Why use rpe? AKWA letter.
Westfall, Karen. (1992). Aqua power bench. Water Fitness #427-022.

WEBSITE:

http://www.mc.edu/water-fitness
http://www.mc.edu/quicklinks/facultyhomepages/pamelamilling

RATE OF PERCEIVED EXERTION (RPE) SCALE

Imagine a scale from 0 to 10 which represents one's breathing rate and measures the intensity of the activity.

0	1	2	3	4	5	6	7	8	9	10

0 Total rest or sleeping; unaware of breathing. You will not experience this level during exercise.

1 Reading a book or sitting at your desk; unaware of breathing. You will not experience this level during exercise.

2 Getting dressed or taking a shower; unaware of breathing. You will not experience this level during exercise.

3 Walking to the other end of the house; slightly aware of breathing. You may experience this in the beginning of warm-up.

4 Walking a very short distance, breathing slightly elevated. Experience this level during warm-up.

5 Walking around the block or to a near-by store; breathing elevated but can carry on a conversation. Experience this level at the end of warm-up.

6 Continuing to exercise briskly while breathing becomes deeper but you're feeling good. Experience this level in the beginning of your aerobic session.

7 Exercising vigorously; breathing is heavier with a slight feeling of fatigue. Carry this level as long as you can comfortably during your aerobic session in order to reach maintenance.

8 Exercising very vigorously; breathing is much deeper with a feeling of fatigue. To become comfortable in this level, push to it for short periods after maintaining level 7. In maintenance, this difficult aerobic level produces rapid results.

9 90% workout; exercising very vigorously; breathing is labored; body fatigued. Some push to this level for very short periods after achieving level 8. This level difficult and should not be maintained.

10 100% workout; you feel as if you cannot catch your breath. Exercising too hard.