

PAK222 – AQUATIC FITNESS LEADER BEHAVIORAL OBJECTIVES

The training objectives are divided into 10 sections: general physical fitness review, basic nutrition and weight loss review, defining aquatic exercise, benefits of aquatic exercise, physical properties of water and laws of motion, exercise training and aquatic exercise, leadership and water safety, major muscle groups, injury prevention, basic aquatic exercise movements. At the end of this training, the instructor will demonstrate an understanding of the basic-principles that follow:

SECTION 1: GENERAL PHYSICAL FITNESS REVIEW

- discuss the basic concepts learned in PAK100

SECTION 2: GENERAL NUTRITION AND WEIGHT LOSS REVIEW

- discuss the basic concepts learned in PAK100

SECTION 3: DEFINING AQUATIC EXERCISE

- define aquatic exercise
- discuss the characteristics of the typical aquatic exerciser
- discuss the major myth and misconceptions about aquatic exercise

SECTION 4: BENEFITS OF AQUATIC EXERCISE

- discuss the current research regarding the benefits of aquatic exercise
- list the benefits of shallow and deep water exercise

SECTION 5: PHYSICAL PROPERTIES OF WATER AND THE LAWS OF MOTION

- define the term principles of water
- list and explain the 3 primary properties of water
- explain the difference between center of mass and center of buoyancy
- describe a method to manipulate center of buoyancy
- define and explain resistance and viscosity
- define drag
- list and explain the 3 types of drag
- discuss how the properties of water can be manipulated to increase or decrease the difficulty of an aquatic workout
- define and provide at least one example of curvilinear and angular movements

- discuss how curvilinear and angular movements can be used to increase or decrease the level of difficulty of an exercise
- define Bernoulli's theorem and lift force
- discuss how Bernoulli's theorem and lift force can be used to increase or decrease the level of difficulty of an exercise
- explain the relationship of buoyancy to resistance
- explain gender differences in water
- define hydrostatic pressure
- explain at least 3 benefits of hydrostatic pressure on the body
- discuss blood pressure reactions in water
- define shallow and deep water and explain the 5 levels with anatomical landmarks that are generally used to define them
- explain considerations in determining the appropriate level of water depth to create a class
- define leverage and how it applies to exercises in water
- define the term physical laws of motion
- list and explain the three laws of motion and how they can be manipulated to increase or decrease level of difficulty
- define efficiency and discuss its relevance to recreational water exercise
- discuss equipment that can be used in water to increase or decrease level of difficulty

SECTION 6: EXERCISE TRAINING AND AQUATIC EXERCISE

- define the term exercise training program
- list and define each of the training principles and discuss how they are used with water exercise
- define training heart rate and methods of monitoring intensity in the water
- list 10 signs of overexertion
- explain the false heart rate, aquatic heart rate and aerobic exercise
- explain the two main factors that cause a lowered aquatic heart rate compared to land heart rate
- discuss the formula to determine aquatic heart rate
- define muscular endurance and muscular strength and methods to train both
- define muscular contraction
- explain the 2 types of contractions that occur in water when not using buoyancy equipment
- explain how the use of buoyancy equipment changes the type of muscle contraction
- define flexibility and discuss optimal types of water in which to stretch
- define the 3 types of stretching and give at least one example of each
- define body composition
- list the skill related components of fitness
- structure anaerobic water class

- discuss proper breathing with water exercises
- define relaxation and demonstrate 7 techniques that can be used in water

SECTION 7: LEADERSHIP AND WATER SAFETY

- describe the primary aquatic exercise instructor qualifications
- explain recommended liability insurance and forms
- explain health screening and risk factors
- list 11 assessment factors to evaluate participant ability
- discuss factors to evaluate a facility
- discuss the current research regarding the benefits of aquatic exercise
- list the benefits of shallow and deep water exercise
- list 9 pool safety signs and markings to understand
- explain state pool codes
- discuss how the type of pool will affect the class design
- discuss water temperature, air temperature, humidity, and potential effects of chlorine and pool chemicals on the body
- discuss recommended attire and list at least 20 practical pieces of equipment that can enhance a workout
- discuss the importance of rescue equipment and the minimum recommendations
- discuss group size and number of recommended participants per instructor
- discuss the use of music
- describe options for instructor teaching positions
- list at least 6 participant safety instructions
- discuss guidelines for general exercise instructions
- list and discuss 3 populations that require extra precautions
- develop an emergency plan and know the facilities emergency procedures
- list 10 common emergencies and strategies to manage them
- list and discuss at least 7 ways to market an aquatic exercise program
- discuss methods to enhance program adherence

SECTION 8: THE MAJOR MUSCLES

- discuss the major muscles covered in PAK100

SECTION 9: INJURY PREVENTION

- define the term injury prevention
- define accidental injury and discuss strategies to avoid them
- discuss strategies to avoid equipment injuries
- explain genetic factors related to injury
- discuss alignment and technique related to injury
- explain the A-B-C classification of water exercises and give an example of each

SECTION 10: BASIC AQUATIC EXERCISE MOVEMENTS

- demonstrate 6 recommended exercises to conduct poolside before entering the water
- demonstrate 6 exercises that can be performed seated at the edge of the pool
- demonstrate 3 exercises standing water level 4 with the back against the pool wall
- demonstrate 6 exercises standing water level 4 with the back against the pool wall holding the rail or pool edge with both hands
- demonstrate 6 exercises standing water level 4 with the back against the pool wall holding the rail or pool edge with both hands
- demonstrate 13 exercises standing in water level 4 facing the pool wall
- demonstrate 2 exercises in deep water facing the pool wall holding the pool edge
- demonstrate 14 exercises standing level 2, 3 or 4 facing the side holding the pool edge
- demonstrate 9 exercises standing in level 3 or 4 away from the wall
- demonstrate 12 arm exercises standing in level 3 or 4 away from the wall
- demonstrate 26 leg exercises standing in level 3 or 4 away from the wall
- demonstrate 5 combinations of the basic movements at level 2, 3, or 4
- demonstrate basic water walking and 27 variations
- demonstrate water jogging level 2, 3, or 4 and 5 variations
- demonstrate 7 lap travelling movements
- discuss methods of group interactive aquatic exercises
- discuss and design at least 7 water formations and 5 formations that increase or decrease intensity
- demonstrate 16 deep water walking and running exercises
- design and discuss 5 types of water circuits
- discuss use of equipment to create variety
- demonstrate at least 10 high energy or complex patterns