



## **National Fitness Leadership Alliance**

### **Aquatic Fitness Leadership Performance Standards**

**The National Fitness Leadership Alliance (NFLA) Mission/Mandate is as follows: The NFLA is a Canadian partnership dedicated to developing, promoting and implementing national standards for training and certification of fitness leaders in Canada.**

The standards are intended to guide course curriculum development and ongoing education initiatives and will provide a minimum set of standards dealing with the knowledge, skills, and values of basic Fitness Leaders. The Performance Standards are intended, as well, to provide a common base from which to design, validate or upgrade examination and practical assessments.

The Performance Standards are designed to provide the fitness leadership training and certification organizations throughout Canada with:

- A reference point from which both entry-level training and the continuing education for Fitness Leaders can be planned;
- A clear description of measurable knowledge, values and skills that characterize acceptable practices by competent Fitness Leaders;
- A blueprint for nurturing professional standards for Fitness Leaders;
- A means for improving the quality of fitness services offered to consumers.

These Performance Standards are considered appropriate and necessary for training Fitness Leaders to design and instruct safe, enjoyable and effective fitness class experiences with asymptomatic, generally healthy people.

### ***Competency-Based Approach – Training and Development***

The key to a competency-based training approach is to design a program focused on the actual tasks to be performed and to create tools to assess the levels of performance. The list of skills, knowledge and values combine to describe the attributes of a competent Fitness Leader that is able to design and deliver safe, effective and enjoyable fitness programs.

## Application of the Performance Standards in Human Resource Planning

<b>Recruitment</b>	Assists employers with the recruitment of individuals with the skills to perform the job.
<b>Selection</b>	Assessment of the knowledge, skill and values of prospective fitness leader candidates.
<b>Orientation</b>	Provides a guideline for development of job descriptions and job assignments.
<b>Training</b>	Guides new leaders into areas that may require upgrading and can focus the discussion to provide meaningful and specific feedback to the Fitness Leader.

### Definitions

A number of terms have been used repeatedly in the development of these Performance Standards. It is important to have a common understanding of their meaning, and therefore NFLA presents the following definitions:

<b>Training</b> <sup>1</sup>	The participation in organized workshops or seminars in a specific field of study.
<b>Certification/Registration</b> <sup>2</sup>	The process by which an organization recognizes an individual who has met the qualifications specified by the agency or association.
<b>Fitness Leadership</b> <sup>3</sup>	<ul style="list-style-type: none"> <li>• Health-related;</li> <li>• A contract with expectations of service, safety and quality in meeting the needs of individuals and groups;</li> <li>• An opportunity occurring in a structured setting (e.g. in the gym/studio, in the pool, in the weight room);</li> <li>• Structured in design and delivery;</li> <li>• Demanding of physical performance;</li> <li>• Follower-leader oriented; and</li> <li>• Observable, measurable, and adheres to NFLA Performance Standards and/or Guidelines.</li> </ul>
<b>Fitness Leader</b>	An individual who meets criteria outlined in the NFLA Performance Standards plus one specialty area.
<b>Competency</b>	A cluster of inter-related behaviors, knowledge, understandings, attitudes, skills and values that are required for performing effectively in a particular identifiable area. <sup>4</sup> Competencies are output driven and are expressed in behavioural terms that are measurable and observable.
<b>Performance</b>	Performance focuses on how well the individual performs the tasks and whether the individual has achieved the desired results.
<b>Knowledge</b>	An understanding of the related theories and concepts one must have in order to accomplish the tasks. This is often referred to as the “mental part of the job”. <sup>5</sup>
<b>Skills</b>	An ability to apply the knowledge within the work environment. This is the “doing part of the job”.
<b>Values/Beliefs</b>	This is the feeling or the believing part of a job. There has to be an understanding of the “operating values, attitudes or principles associated with the carrying out of the job related activities”.

<sup>1</sup>*Taking Our Pulse: Survey of Fitness Leaders* (p. 29), 1996

<sup>2</sup>*Taking Our Pulse: Survey of Fitness Leaders* (p. 29), 1996

<sup>3</sup>*NFLA's Model* – November 1997

<sup>4</sup>Suessmuth, P. & West S. (1987) *Competency analysis for trainers, a professional assessment and development guide*. Toronto: Ontario Society for Training and Development.

<sup>5</sup>Rabinovitz, T. (1990) *The Development and Testing of a Training Needs Assessment Model*.

**Course Objective:** At the end of the course the student should have the necessary skills to design and implement a safe and effective Aquatic Fitness class for an apparently healthy population.

## Introduction

### Performance Standard #1

The Aquatic Fitness Leader will summarize the history and describe the benefits of aquatic fitness to the participant and the community.

#### Competencies

- a) Define aquatic fitness.
- b) Explain the history and development of aquatic fitness, current trends and sociological influences as they pertain to the popularity of aquatic fitness.
- c) Describe and explain the nature of water as an exercise medium and the psychological benefits of aquatic fitness to the participant.
- d) Describe the demographic profile of current aquatic fitness participants and the reasons for their participation.

### Performance Standard #2

The Aquatic Fitness Leader will demonstrate through written or verbal communication, knowledge of the value of aquatic fitness as a training environment for fitness for apparently healthy populations.

#### Competencies

- a) List different uses of water for fitness, health, sports and post-rehabilitation activities.
- b) List the variety of uses for water as an exercise medium for both swimmers and non-swimmers.

## Class Components

### Performance Standard #1

The Aquatic Fitness Leader will demonstrate and describe the basic components of Physical Fitness and their application in a class setting.

### Competencies

- a) List and describe the basic components of Physical Fitness (i.e. muscular strength and endurance, flexibility and cardiovascular endurance).
- b) List and describe the basic class components.
- c) Give an example for training each of the components listed in 'c', in an aquatic environment.
- d) List and describe functional fitness skills in an appropriate class setting.

## Class Design/Practice Teaching

### Performance Standard #1

The Aquatic Fitness Leader will create and design an effective aquatic fitness program from initial planning stages, to implementation including program evaluation.

### Competencies:

- a) Design a basic lesson plan for a well-balanced aquatic fitness session or class.
- b) Design a series of movements that flows sequentially from one exercise and/or pattern to the next for each class component.
- c) Analyze the risks and benefits of a given exercise or movement pattern.
- d) Design and demonstrate an appropriate basic exercise and safe and effective alternatives for a given muscle group.
- e) Design exercise movements and patterns that effectively stimulate the physiological training responses for each class component.
- f) Demonstrate the appropriate use of a variety of training methods/types (e.g. circuit training, sport-specific, theme days, interval).

## Review of Applied Fitness Theory

### Performance Standard #1

The Aquatic Fitness Leader will apply biomechanical principles to exercising in the water.

#### Competencies

- a) Define and/or explain the following terms: anterior/ventral, posterior/dorsal, superior/cranial, inferior/caudal, plantar, proximal, distal, medial, lateral, coronal/frontal, sagittal, transverse/cross horizontal, insertion, origin, prone, supine.
- b) Identify major muscle groups and their functions in relation to Aquatic Exercise: rectus femoris, vastus medialis, vastus intermedius, vastus lateralis, biceps femoris, semitendinosus, semimembranosus, gluteus minimus, gluteus medius, gluteus maximus, gracilis, iliopsoas, biceps, triceps, trapezius, rhomboids, serratus anterior, latissimus dorsi, pectoralis major, pectoralis minor, deltoids, rotator cuff (subscapularis, infraspinatus, teres minor, supraspinatus), gastrocnemius, soleus, tibialis anterior, adductors, abductors, transverse abdominals, internal obliques, external obliques, rectus abdominus, erector spinae, sartorius.
- c) Analyze the joint action using technical terminology for a given exercise: flexion, extension, abduction, adduction, medial rotation, lateral rotation, circumduction, and hyperextension, lateral flexion, dorsiflexion, plantar flexion, eversion, inversion, supination, pronation, horizontal abduction, horizontal adduction, elevation, depression, retraction, protraction, upward rotation of the shoulder girdle.
- d) Analyze the agonist and antagonist using proper muscle names for a given exercise and relate to their movement in the water: quadriceps/hamstrings, gluteus maximus/iliopsoas, biceps/triceps, trapezius, rhomboids/serratus anterior, latissimus dorsi/ pectoralis major, medial rotators/lateral rotators of the rotator cuff, gastrocnemius, soleus/ tibialis anterior, adductors/ abductors, abdominals/erector spinae.
- e) Identify and describe ideal postural alignment and natural spinal curvatures.

### Performance Standard #2

The Aquatic Fitness Leader will apply physiological principles to exercising in the water.

#### Competencies

- a) Explain normal and abnormal heart rate and blood pressure responses while exercising in an aquatic environment.
- b) Describe the acute physiological changes that occur to each of the following systems:
  - a) cardiovascular, b) respiratory, c) musculoskeletal.
- c) Describe the benefits of aerobic aquatic fitness on weight management, aerobic capacity, stress, venous return, and the risk of cardiovascular disease (atherosclerosis, arteriosclerosis and hypertension).
- d) Describe and apply principles of training (e.g. progressive overload, specificity, hypertrophy, atrophy).
- e) Explain theoretically why aquatic heart rates may be lower than land-based heart rates for the same exercise.

- f) Define the following terms and explain the influences that the aquatic environment has on these measures: cardiac cycle, cardiac output, stroke volume, oxygen consumption ( $\text{VO}_2$ ), respiration, and Max  $\text{VO}_2$ , blood pressure; systole/diastole),

### **Performance Standard #3**

The Aquatic Fitness Leader will demonstrate through written or verbal communication knowledge of metabolic physiology during aquatic fitness.

#### **Competencies**

- a) Describe and give example of activities/exercises using various energy systems.
- b) Describe the roles of carbohydrates, fat and protein play as fuel sources for the production of ATP.
- c) Define kilocalorie, caloric expenditure, caloric intake, caloric deficit, and energy balance.
- d) Explain the role exercise and food intake play in weight management.

## **Applied Physical Principles of Water**

### **Performance Standard #1**

The Aquatic Fitness Leader will describe the relationship between environmental influences and the body before, during, and after an aquatic fitness class.

#### **Competencies**

- a) Describe the physiological responses to variations in air and water temperatures and the implications for class design.
- b) Compare and contrast the body's ability to dissipate heat on land and in water and the implications for exercising in the water.
- c) Explain the normal and abnormal physiological and psychological responses to immersion in hot and cold water environments (whirlpools, lakes, outdoor/indoor pools).

### **Performance Standard #2**

The Aquatic Fitness Leader will demonstrate through written or verbal communication an understanding of the physical properties of water.

#### **Competencies**

- a) Describe the physiological and neurological changes that occur to the body upon entering the water.
- b) Define and explain the following terms and principles relating to movement in water: buoyancy (assisted, supported, resisted), viscosity, reduced gravity, water resistances (frontal, drag forces, surface tension), propulsion, turbulence, refraction, conduction, physical laws of inertia, acceleration/deceleration, action/reaction, leverage,

Archimedes principle, hydrostatic pressure, balance, muscular contraction, venous return, speed of joint and body movement.

## Use of Music and Voice

### Performance Standard #1

The Aquatic Fitness Leader will select appropriate music (or none at all) for an aquatic fitness class.

### Competencies

- a) Choose appropriate music to suit the purpose and type of class and participant.
- b) Compare and contrast the differences between land-based and aquatic-based exercise classes with regards to musical selections, volume, tempo and type.
- c) Explain the pros and cons relating to the use of music in an aquatic fitness class (e.g. electrical equipment near water, noise injury to ears, the possibility of water damage to tapes and stereo equipment, voice injury and humidity).
- d) Explain copyright infringement laws with respect to the reproduction and licensing of music (SOCAN).
- e) Explain and demonstrate the principles of voice projection and health maintenance techniques.
- f) Demonstrate an awareness of appropriate decibel levels for use of music (Workers Compensation Board standards).

## Communication Skills

### Performance Standard #1

The Aquatic Fitness Leader will demonstrate effective communication and feedback techniques in an aquatic fitness class.

### Competencies

- a) Provide and receive constructive feedback before and after class using a variety of verbal and non-verbal techniques (e.g. active listening, paraphrasing, questioning, clarifying, reflecting, as well as using body language).
- b) Describe and constructive feedback for participants during the exercise session.
- c) Describe motivational and communication strategies to optimize exercise adherence and participation and to encourage the adoption of healthy lifestyle behaviours.
- d) Recognize and provide feedback for participant behaviour that could lead to difficult, awkward or potentially dangerous situations (e.g. ballistic movement patterns, erratic or careless use of equipment, lack of attentiveness, inability to follow or listen to instructions).

## **Performance Standard #2**

The Aquatic Fitness Leader will demonstrate verbal and visual cueing in an aquatic fitness environment.

### **Competencies**

- a) Demonstrate and explain effective use of various types of verbal cueing.
- b) Demonstrate and explain effective use of various methods of visual cueing.
- c) Describe or demonstrate a combination of visual and verbal cueing to correct a participant's body alignment or exercise technique.

## **Performance Standard #3**

The Aquatic Fitness Leader will conduct a safe and effective aquatic fitness session that is characterized by a friendly, efficient delivery as well as observable participant satisfaction.

### **Competencies**

- a) Describe and demonstrate techniques to accommodate varying participant skill and fitness levels in the same class to provide a safe and effective workout for all.
- b) Describe constructive feedback for participants during the exercise session.
- c) Compare and contrast teaching from the pool deck versus teaching in the water.
- d) Explain the components of appropriate swim attire in a manner that will create or sustain a positive exercise climate.

## **Performance Standard #4**

The Aquatic Fitness Leader will demonstrate and describe various leadership styles, assessment tools and interpretation of results to assist in effective program design.

### **Competencies**

- a) Describe and demonstrate effective use of a variety of leadership styles.
- b) Design and administer a post-program evaluation, listing modifications for future implementation.
- c) Based on results of a needs assessment, design appropriate, specific, measurable, attainable, goals for the specific type, length, intensity and population of the aquatic fitness class.
- d) Design and administer a post-session feedback session/tool and summarize results.

## Safety

### Performance Standard #1

The Aquatic Fitness Leader will identify and address health problems, conditions or risk factors that may interfere with a participant's ability to exercise safely in an aquatic fitness class.

#### Competencies

- a) Recognize and address pre-existing health conditions that may affect a participant's ability to exercise safely. (i.e. screening, PAR-Q, written and verbal consent)
- b) Recognize and address heat- and cold-related injuries such as hypothermia, heat stroke, heat exhaustion and sunstroke.
- c) Identify and communicate preventive measures to participants (e.g. proper footwear and attire, exercise technique and impact, pre-exercise meals, low-back pain, overtraining, overexertion participant's right not to perform any exercise or movement pattern that is uncomfortable).
- d) Complete a safety checklist ensuring a safe pool environment and safe exercise equipment.
- e) Recognize when modifications are needed and offer alternatives in a safe and effective manner.
- f) List and explain controllable and uncontrollable cardiovascular risk factors.
- g) Describe the symptoms of overtraining.
- h) Describe an effective introduction to an aquatic class that would create a safe and comfortable environment.

### Performance Standard #2

The Aquatic Fitness Leader will demonstrate a variety of exercise intensity monitoring techniques.

#### Competencies

- a) Compare and contrast monitoring exercise intensity with the heart rate, talk test and Borg's revised rating of perceived exertion (RPE).
- b) Compare, contrast and demonstrate various heart rate monitoring techniques (radial, carotid and temporal pulse sites and heart rate monitors).
- c) Calculate and explain maximum heart rate and target training zones.
- d) Describe the effect of the water on recovery heart rates and the implications for aquatic class design.
- e) Describe and demonstrate appropriate use of progressive overload to safely adjust exercise intensity.

### **Performance Standard #3**

The Aquatic Fitness Leader will describe the roles of both the leader and participant, and their responsibilities before, during, and after an aquatic fitness class.

#### **Competencies**

- a) Describe the aquatic fitness industry's standards of care and code of ethics.
- b) Describe the location of the emergency phone, First Aid kit and the steps involved in activating emergency response procedures.
- c) Demonstrate through written or verbal communication the Aquatic Fitness Leader's responsibility to do no harm and to provide quality instruction, guidance, resources, literature, support and encouragement.
- d) Describe the participant's role before, during, and after an aquatic fitness session (e.g. his/her right to stop participating by choice at any time and his/her obligation to inform the instructor of feelings of fainting, dizziness, nausea, pain or discomfort).

### **Performance Standard #4**

The Aquatic Fitness Leader will describe the need for insurance as it relates to aquatic fitness instruction.

#### **Competencies**

- a) Discuss circumstances which require professional insurance (i.e. employee vs. contract).

### **Performance Standard #5**

The Aquatic Fitness Leader will describe various legal issues surrounding the development and instruction of an aquatic fitness class.

#### **Competencies**

- a) List the advantages and disadvantages of various forms for use in an aquatic fitness class (e.g. informed consent, waivers, medical clearance and health history forms).
- b) Define and/or explain the following terms as they relate to instruction of an aquatic fitness class: risk, liability, negligence, copyright laws, standard of care, scope of practice, independent contractor, employee and self-employed.
- c) List preventative strategies to address the concept of preventive care and management through anticipating and addressing potential legal issues before they occur.
- d) Complete an accident/incident report.

## Equipment

### Performance Standard #1

The Aquatic Fitness Leader will demonstrate safe, effective and appropriate use of aquatic fitness equipment for various class types and participants.

### Competencies

- a) Describe the pros and cons of using a piece of equipment.
- b) Design a series of appropriate exercises and alternatives for a specific muscle group using various pieces of equipment.

### Lesson Plan

- 1) Cost, durability, maintenance
- 2) Practical uses and examples
- 3) Proper application (safety)

## Special Populations

### Performance Standard #1

The Aquatic Fitness Leader will apply the principles of exercise selection (anatomy, physiology, kinesiology and metabolic disciplines) to the design of an aquatic fitness sessions for special populations.

### Competencies

- a) Explain the benefits/risks of aquatic fitness for populations with specific conditions such as diabetes, arthritis, hypertension, coronary artery disease, musculoskeletal conditions or injuries, low-back pain, osteoporosis, obesity, asthma, and conditions relating to aging.
- b) Design a series of appropriate exercises and alternatives addressing the needs of various special populations. Include exercise equipment, pattern and formation precautions.
- c) Research pertinent resources.

## Registration/Resources/Professional Development

### Performance Standard #1

The Aquatic Fitness Leader will demonstrate a continued adherence to the Provincial and National Aquatic Fitness Code of Ethics, Standards of Care and Scope of Practice.

### Competencies

- a) Understand requirements to become registered and maintain Aquatic Fitness Leader registration/certification.
- b) Maintenance of current CPR and other emergency care training as required by the provincial association.
- c) Understand the importance of participation in periodic emergency practice sessions.
- d) Describe administrative processes, pool policies, and regulations and their implication on program design.
- e) Describe the signs of instructor burnout and methods of prevention.
- f) Describe how to locate and review pertinent articles or information regarding Aquatic Fitness.