



Australian Government

SISFFIT048 Use anatomy and physiology knowledge to support safe and effective water-based exercise

Release: 1

SISFFIT048 Use anatomy and physiology knowledge to support safe and effective water-based exercise

Modification History

No equivalent unit.

Application

This unit describes the performance outcomes, skills and knowledge required to identify the role of anatomy and physiology knowledge in aqua fitness instruction, and to use that knowledge to develop and instruct safe and effective water-based exercise activities.

Knowledge of anatomy and physiology underpins effective performance in a range of work functions for water-based exercise instruction. This unit has direct links to, and supports, units for planning and instructing water-based exercise sessions.

This unit applies to aqua exercise instructors; they practise in settings with pools, such as fitness facilities, gyms, leisure and community centres.

The skills in this unit must be applied in accordance with Commonwealth and State or Territory legislation, Australian standards and industry codes of practice.

No occupational licensing, certification or specific legislative requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Fitness

Unit Sector

Fitness

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- | | |
|---|---|
| 1. Identify role of anatomy and physiology in aqua fitness instruction. | 1.1. Identify situations where aqua instructors use knowledge of anatomy and physiology.
1.2. Identify and use credible sources of information about anatomy and physiology that are relevant to aqua instruction. |
| 2. Select effective water-based exercise activities for participants. | 2.1. Identify aspects of anatomy and physiology that impact selection of suitable exercises for participants.
2.2. Select exercises that account for variations associated with participant sex and age. |
| 3. Support participants to exercise safely and effectively. | 3.1. Provide succinct explanations about the relationship between water-based exercises and their beneficial impacts on the body and health.
3.2. Explain injury risk factors and demonstrate and explain safe and effective exercise technique to participants. |

Foundation Skills

Foundation skills essential to performance in this unit, but not explicit in the performance criteria are listed here, along with a brief context statement.

SKILLS

DESCRIPTION

- | | |
|--------------------------------------|--|
| Reading skills to: | <ul style="list-style-type: none">• interpret information of varying complexity about anatomy and physiology, including anatomical terminology. |
| Oral communication skills to: | <ul style="list-style-type: none">• explain information that includes anatomical and physiological references using terms that participants can understand. |
| Initiative and enterprise skills to: | <ul style="list-style-type: none">• critically analyse information about anatomy and physiology for its application to aqua fitness instruction• critically interpret and synthesise complex information into participant focussed fundamental information. |

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1ca50016-24d2-4161-a044-d3faa200268b>

Assessment Requirements for SISFFIT048 Use anatomy and physiology knowledge to support safe and effective water-based exercise

Modification History

No equivalent unit.

Performance Evidence

Evidence of the ability to complete tasks outlined in elements and performance criteria of this unit in the context of the job role, and:

- source and review information about anatomy and physiology relevant to aqua fitness instruction from three credible sources, and select specific information for use in different areas of aqua instruction work
- choose two water-based exercises that are suitable for each of the following participant types (eight exercises in total):
 - female adults
 - participants aged 55 years or over
 - sedentary participants
 - active participants
- for each of the above eight exercises:
 - demonstrate safe and effective exercise technique to participants during group water-based exercise sessions
 - during session instruction, provide a plain language explanation to the group about:
 - the relationship between the exercise and its beneficial impacts on the body and health, to include muscular function and process
 - associated injury risk factors and safe exercise technique.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- types of activities where aqua instructors use knowledge of anatomy and physiology:
 - interpreting participant health information and related terminology
 - developing water-based exercise sessions appropriate for participant characteristics and session goals
 - providing instruction about exercise technique
 - explaining purpose of exercises and answering participant questions
- credible sources of information about human anatomy and physiology that draw links with aqua fitness instruction activities
- basic aspects of the following and any variances for different sexes:

- cardiovascular system:
 - structure and overall function
 - relationships between water-based exercise intensity and circulatory and ventilator responses
 - short- and long-term effects of water-based exercise on blood pressure and cardiorespiratory fitness
- respiratory system:
 - structure and overall function
 - mechanics of breathing
 - respiratory system demands of water-based exercise activities
- muscular system:
 - structure and overall function
 - major muscle groups
 - functions and actions of major muscles during water-based movement and exercise, and resulting joint actions
 - short- and long-term effects of water-based exercise on muscle
 - changes to the muscular skeletal system over the lifespan
- skeletal system:
 - structure and overall function
 - major bones, major joints and joint structures
 - short- and long-term effects of water-based exercise on bones and joints
- overview of physiological and biomechanical differences between aquatic and land-based exercises
- properties of water and physiological impact and benefits in water-based exercise:
 - mass
 - density
 - viscosity
 - hydrostatic pressure at different depths
- forces that act on the body in water at different depths, and how these affect participants during water-based exercise:
 - buoyancy
 - resistance
 - turbulence
 - propulsion
 - inertia
- basics of thermoregulation and its application to exercising in water:
 - processes of heat gain and heat loss
 - effects of different water temperatures
 - effects of dehydration on body temperature
- basic definitions of these types of injuries, and common exercise related causes:
 - primary and secondary

- direct and indirect
- acute and overuse
- how water-based exercise activities can be adjusted to safely accommodate common and low risk injuries
- participant-focussed plain language explanations of anatomical and physiological information.

Assessment Conditions

Instructional activities for this unit must be demonstrated in an indoor or outdoor pool facility meeting current State or Territory and local government regulations. The facility owner or operator must have guidelines or policies and procedures to regulate the safe operation of the facility and its use by facility users and instructors based on current industry guidelines for safe pool operations.

Pools can be publicly or commercially owned and operated, and in diverse locations including educational institutions, clubs, fitness facilities, gyms, and leisure and community centres.

The following resources must be available to replicate industry conditions of operation:

- first aid equipment
- rescue equipment
- communication equipment for emergency response.

Assessment must ensure the use of:

- interaction with group participants who are participating in exercise activities within a pool; these can be:
 - group participants in an industry workplace, or
 - group participants who participate simulated activities used for the purpose of skills assessment
- equipment required for selected exercise types.

Assessors must:

- satisfy the Standards for Registered Training Organisations requirements for assessors, and
- hold a qualification or Statement of Attainment which includes this unit of competency, SISFFIT048, and have a collective period of at least two years' experience working in aqua fitness instruction, where they have applied the skills and knowledge covered in this unit of competency; the two years' experience can incorporate full and part time experience, or
- be a registered or accredited practising health or exercise professional with a degree and experience relevant to this unit of competency.

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