



Australian Government

SISFFIT004 Incorporate anatomy and physiology principles into fitness programming

Release: 1

SISFFIT004 Incorporate anatomy and physiology principles into fitness programming

Modification History

Not applicable.

Application

This unit describes the performance outcomes, skills and knowledge required to incorporate an understanding of the human body structure and physiology into fitness instruction, programming and provision of fitness advice.

This unit applies to fitness instructors who work in a variety of fitness locations such as fitness, leisure and community centres. These individuals typically work independently with some level of autonomy in a controlled environment. Work is performed according to relevant legislation and organisational policies and procedures.

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. Consolidate understanding of anatomy and physiology.
 - 1.1 Source and access information on anatomy and physiology relevant to fitness outcomes.
 - 1.2 Use knowledge of anatomy and physiology in day-to-day professional practice.
 - 1.3 Discuss/explain how understanding of anatomy and physiology contribute to safe/optimum technique and skill development.
 - 1.4 Use a wide range of anatomical terminology relevant to injury prevention and fitness outcomes.
 - 1.5 Identify how anatomical structures respond to physical activity.
 - 1.6 Apply a sound understanding of injury prevention techniques to fitness instruction and programming.
2. Apply knowledge to own professional practice.
 - 2.1 Assess ways in which knowledge of anatomy and physiology may be used, adapted or challenged in instruction and provision of fitness advice.
 - 2.2 Identify current and emerging knowledge of anatomy and physiology relevant to development of own professional practice.
 - 2.3 Modify approach to fitness programming activities and advice as required.
3. Maintain and update knowledge of anatomy principles.
 - 3.1 Identify and use opportunities to update and expand own knowledge of anatomy and physiology.
 - 3.2 Monitor response to changes made to own professional practice or instruction.
 - 3.3 Continue to adjust own practice to optimise results.

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:	source and comprehend often complex anatomical and physiological information such as anatomical charts and labels on anatomical models.
Problem-solving skills to:	make connections between own practice and conclusions drawn from information about principles of anatomy and physiology.
Learning skills to:	monitor sources of information to expand knowledge base on anatomy and physiology relevant to own practice.

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 SISFFIT004 Incorporate anatomy and physiology principles into fitness programming

Modification History

Not applicable.

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:

- effectively use knowledge of the following body systems to improve own instructional practice to plan and instruct at least five different client sessions:
 - cardiovascular
 - respiratory
 - musculoskeletal, with attention to:
 - bone strength
 - muscle endurance
 - muscle strength
 - nervous
 - digestive
- explain and demonstrate:
 - the major movements of the body, while identifying major muscles
 - actions of major joints during exercise
 - relevant information regarding structure and function of skeletal muscle, and process of muscle contraction during exercise
 - muscle actions and functions during different types of contractions.

Knowledge Evidence

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

- anatomical terminology:
 - anatomical position
 - superior
 - inferior
 - proximal
 - distal
 - lateral
 - medial
 - superficial

- deep
- planes of movement – sagittal, frontal, horizontal
- movement terminology and muscle actions:
 - flexion
 - extension
 - abduction
 - adduction
 - pronation
 - supination
 - dorsiflexion
 - plantarflexion
 - circumduction
 - inversion
 - eversion
- structural levels of body organisation:
 - cells
 - tissues
 - organs
 - organisms
- functions of major muscles during exercise and movement:
 - agonist
 - prime mover
 - antagonist
 - synergist
 - fixator
- types of muscle contractions:
 - isotonic – concentric and eccentric
 - isokinetic
 - isometric
- tissue types:
 - connective
 - muscle
 - nervous
 - epithelial
- body systems, their interdependence and contribution to a healthy body:
 - cardiovascular
 - musculoskeletal
 - nervous
 - digestive
 - respiratory

- structure and function of:
 - • muscles:
 - types and classifications
 - global and local muscular systems
 - major muscle groups
 - contractibility and activation
 - nervous system:
 - nerves and nerve impulses
 - reflex arcs and relationship to stretching
 - role of nervous system in different types of training
 - skeletal system:
 - types of bones
 - major bones
 - bony landmarks
 - major joints
 - cardiovascular system:
 - heart and blood vessel anatomy
 - circulation pathways
 - role of blood
 - oxygen demands of fitness activities
 - relationships between exercise intensity and circulatory and ventilator responses
 - respiratory system:
 - mechanics of breathing
 - respiratory volumes and relationships to fitness levels and exercise
- energy systems, pathways and substrates and relevant recovery options
- thermoregulation of the human body:
 - consideration of the methods of cooling and warming
 - current environmental conditions
- exercises to promote ideal postural alignment and prevent development of pathological postures, with consideration of:
 - spinal curves
 - muscle balance
 - joint alignment.

Assessment Conditions

Skills must be demonstrated in:

- a workplace or simulated fitness industry environment that offers a variety of fitness services and facilities for clients.

Assessment must ensure access to:

- anatomical and physiological information and resources
- anatomical models or images.

Assessment must ensure use of:

- planning and evaluation documentation with inclusion of identified improvements to professional practice
- clients for the purposes of explanation and demonstration in instruction; these can be:
 - clients in the workplace, or
 - individuals who participate in project activities, role plays or simulated activities, set up for the purpose of assessment, within a training organisation.

Assessment activities that allow the individual to:

- demonstrate ability to incorporate body system knowledge into the instruction of sessions, catering for:
 - beginners, intermediate and advanced participants
 - low and high impact.

Assessors must satisfy the Standards for Registered Training Organisation's requirements for assessors, and:

- have achieved a Certificate IV in Fitness or above; and
- have at least 1 year consecutive post qualification fitness industry experience in the application of the skills and knowledge of the Certificate IV in Fitness.

Links

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