### RPL Standard

SISFFIT019 Incorporate Exercise Science Principles into Fitness Programming

**How to complete this form**

Complete all areas in **blue** on the following pages by providing information on your previous skills and qualifications using the information below as a guide.

**Unit Description**

### This unit describes the performance outcomes, skills and knowledge required to incorporate an understanding of exercise science principles into fitness instruction, programming and provision of fitness advice. To gain RPL for this unit of competency the applicant must meet the following benchmarks along with providing evidence that their current level of knowledge and skills is relevant to all performance criteria, knowledge and performance evidence.

**The applicant must provide evidence of the following to gain RPL for this unit:**

* The applicant must have industry experience within a health/fitness service where direct client contact is involved, this can be within work placement from previous health courses.
* Applicants who may have completed a similar unit within a health course
* The applicant must provide ability to use of physiological and mechanical principles in training to improve the health- and skill-related components of fitness of clients who have recently completed industry endorsed pre-exercise screening and risk stratification procedures.
* The applicant must demonstrate knowledge of all Performance Criteria, Essential Knowledge and Skills

**Example Evidence**

### Relevant transcript & certificate

### Evidence of working within the industry

### Evidence of providing clients with information related to exercise in a manner which they can understand and implement to their exercise sessions.

* Evidence of ability to design exercise programs utilising sound exercise science principles

### Completion of ACFB e-learning quiz/oral questioning to ensure currency of knowledge evidence; if required this will be completed after enrolment

### Evidence documents MUST include, but are not limited to:

* Copy of five (5) different client forms including screening, fitness testing and programs cards that individually or cumulatively incorporate:
* A variety of exercises which are targeted at health-and skill-related components of fitness, for achieving improvements and adaptations in:
* Muscle contractility and force
* Bone strength
* Nervous system activation
* Submaximal and resting heart rates
* Cardiovascular system adaptations
* Variations of exercise
* With and without equipment
* Exercises to change:
* Joint action
* Stabilisation of the body
* Forces which act on the body during exercise
* Variations in the contribution of energy from three different energy systems
* Consideration of:
* Musculoskeletal anatomy and physiology
* Mechanical principles

### Physiology concepts

### 

### *Unit Evidence Description*

|  |  |  |  |
| --- | --- | --- | --- |
| **Applicant Name** |  |  |  |

### 

### 

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ***SIS40215*** | | Certificate IV in Fitness | **SISFFIT019** | **Incorporate Exercise Science Principles into Fitness Programming** | **Office Use only** | |
| **Type of Unit:** Core | | **Prerequisite:** None | **Sufficient** | **F.E.R.** |
| **Elements / Performance Criteria** | | | **Evidence***(Applicant; Explain in detail how your evidence relates to the required knowledge listed)* | |  |  |
| **1. Consolidate understanding of exercise science principles** | | | | | | |
| 1.1 | Source and access information on exercise science principles relevant to fitness outcomes | |  | |  |  |
| 1.2 | Discuss/explain how understanding of exercise science principles contribute to safe/optimum technique and skill development | |  |  |
| 1.3 | Use a wide range of terminology relevant to exercise science principles and fitness outcomes | |  |  |
| **2. Apply knowledge to own professional practice** | | | | | | |
| 2.1 | Assess ways in which knowledge of exercise science principles may be used, adapted or challenged in instruction and provision of fitness advice | |  | |  |  |
| 2.2 | Identify current and emerging knowledge of exercise science principles relevant to development of own professional practice | |  |  |
| 2.3 | Use knowledge of exercise science principles in day-to-day professional practice | |  |  |
| 2.4 | Modify approach to fitness programming activities and advice as required | |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **3. Maintain and update knowledge of exercise science principles** | | | | |
| 3.1 | Identify and use opportunities to update and expand own knowledge of exercise science principles |  |  |  |
| 3.2 | Monitor response to changes made to own professional practice or instruction |  |  |
| 3.3 | Continue to adjust own practice to optimise results |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Knowledge Evidence** | **EVIDENCE** (please explain in detail how your evidence relates to each of the required skills listed) | **Office Use Only** | |
|  | | **Sufficient** | **F.E.R.** |
| Organisational policies and procedures in relation to:   * Work health and safety/occupational health and safety * Confidentiality of client information * Ethical considerations |  |  |  |
| Industry endorsed client pre-exercise health screening processes |  |  |
| Industry endorsed risk stratification procedures, exercise implications and referral requirements |  |  |
| The physiology related to achieving improvements in the following health-related components of fitness:   * Body composition * Flexibility * Muscle strength * Muscle endurance * Cardiorespiratory endurance |  |  |
| The physiology related to achieving improvements in the following skill-related components:   * Balance * Agility * Power * Speed * Reaction time * Coordination * Proprioception |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Musculoskeletal anatomy and physiology related to achieving improvements in fitness:   * Structure and function of the skeleton * Joints in the skeleton * Cellular structure of muscle fibres * Sliding filament theory * Effects of different types of exercises on muscle fibre types * Muscle attachment sites for the major muscles of the body * Structure, range of motion and function of muscles, muscle groups and directional terms * Location and function of skeletal muscle involved in physical activity * Anatomical axis and planes with regard to joint actions and different exercises * Joint actions brought about by specific muscle group contractions * Joints/joint structure with regard to range of motion/movement and injury risk * Joint movement potential and joint actions * The specific roles of the nervous system in controlling skeletal muscle: * The central nervous system * The peripheral nervous system including somatic and autonomic nervous systems * Nervous control and transmission of a nervous impulse * Structure and function of a neuron * Role of a motor unit * Function of muscle proprioceptors and the stretch reflect * Reciprocal inhibition and its relevance to exercise * The neuromuscular adaptations associated with exercise training * The benefits of improved neuromuscular coordination/efficiency to exercise performance |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Concepts and principles of mechanics relevant to fitness:   * Forces which act on the body during exercise * Common biomechanical terms * Lever system in the body * Structure and function of the stabilising ligaments and muscles of the spine * The local muscle changes that can take place due to insufficient stabilisation * The potential effects of poor posture on movement efficiency * The potential problems that can occur as a result of postural deviations * The benefits, risks and applications of the following types of stretching: static (passive and active) and dynamic * Proprioceptive neuromuscular facilitation (PNF)   Different exercises that can improve posture |  |  |  |
| Concepts and principles of the physiology of the body in relation to fitness:   * The function of heart valves * Coronary circulation * Short and long term effects of exercise on blood pressure * The effects of exercise on bones and joints including the significance of weight bearing exercise * Delayed onset muscle soreness (DOMS) * Exercises or techniques likely to cause delayed onset muscle soreness * The short and long term effects of different types of exercise on muscle * The benefits and limitations of different methods of monitoring exercise intensity including: talk test, rate of perceived exertion * Heart rate monitoring and the use of different heart rate zones * Physiological responses to physical activity in various environmental conditions |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| The expected physiological responses, and appropriate action, to:   * A single bout of exercise * Physical activity in various environmental conditions * Long term exercise programs |  |  |  |
| Scope of practice for a personal trainer |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Performance Evidence** | **EVIDENCE** *(This evidence will be collected via documents outlined on first & second page)* | **Office Use Only** | |
|  | | **Sufficient** | **F.E.R.** |
| Effectively use knowledge of exercise science principles to improve own instructional practice to plan and instruct at least five different client sessions | *This evidence will be collected via evidence documents listed on page 1 & 2 and via oral questioning* |  |  |
| Conduct sessions that individually or cumulatively incorporate:   * A variety of exercises which are targeted at health- and skill-related components of fitness, for achieving improvements and adaptations in: * Muscle contractility and force * Bone strength * Nervous system activation * Submaximal and resting heart rates * Cardiovascular system adaptations * Variations of exercise * With and without equipment * Exercises to change: * Joint action * Stabilisation of the body * Forces which act on the body during exercise * Variations in the contribution of energy from three different energy systems * Consideration of: * Musculoskeletal anatomy and physiology * Mechanical principles * Physiology concepts | *This evidence will be collected via evidence documents listed on page 1 & 2 and via oral questioning* |  |  |

**Office Use Only**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **RPL Outcome** | | | | |
| **RPL Achieved** | Yes □ | No □ | |
| **Further Evidence Required** | Yes □ | No □ | |
| **Further Evidence *(list of required evidence)*** | | | | |
|  | | | | |
|  | | | | |
|  | | | | |
|  | | | | |
|  | | | | |
|  | | | | |
|  | | | | |
| *RPL Assessor Name:* | | | *Date:* | |

