EHFA
European Health & Fitness Association

SETTING THE STANDARDS
FOR THE EUROPEAN
HEALTH AND FITNESS SECTOR

EHFA Standards EQF Level 4 Personal Trainer

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Executive Summary

This document supports the update of the original EHFA Standards that were completed in 2005. The original B1 Competence Framework and the essential Skills and Knowledge have been updated as Learning Outcomes, based on job purposes, for exercise professionals working as Personal Trainers in the European health and fitness industry. These are based on the European Qualification Framework (EQF) level 4.

These updated Standards and the Education associated are purpose and outcome driven, and are aligned with the industry main goal to get: **'More People, More Active, More Often'.**

The booklet containing the new EHFA Standards is organized in the following three different chapters, trying to offer to the reader a comprehensive approach to the requested knowledge, skills and competences for the health & fitness industry:

- Chapter 1: An introductory statement about the update of the EHFA Standards from 2005.
- Chapter 2: The essential Skills and Knowledge written as Learning Outcomes, based on job purposes, required to work as a Personal Trainer in the European Health and Fitness Industry at the EQF-Fitness Level 4, where EQF 3 Instructor knowledge is a prerequisite.
- Chapter 3: The EHFA Competence Framework and the essential Competences, associated to Skills and Knowledge written as Learning Outcomes, based on occupational purposes, required to work as a Personal Trainer in the European Health and Fitness Industry at the EQF-Fitness Level 4.

And finally, it is to be noted that more than thirty technical experts across Europe representing the different stakeholders of our sector volunteered to assist with the review and expansion of the EHFA Standards.

Alfonso Jimenez, PhD.
Chairman
EHFA Standards Council

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Introductory Statement about the Update and Evolution of the EHFA EQF Level 4 Standards

Education and Culture DG

Lifelong Learning Programme

What is the EQF and what are its benefits?

The Standards that are agreed by EHFA are based upon the European Qualification Framework (EQF) which is a common European reference framework which links countries' qualifications systems together, acting as a translation device to make qualifications more readable.

This will help learners and workers wishing to move between countries, or to change jobs, or to move between educational institutions at home.

Why does the EQF use learning outcomes?

The EQF uses 8 reference levels based on learning outcomes (defined in terms of knowledge, skills and competences). The EQF shifts the focus from input (lengths of a learning experience, type of institution) to what a person holding a particular qualification actually knows and is able to do. By shifting the focus to learning outcomes it helps to:

- Support a better match between the needs of the labour market (for knowledge, skills and competences) and education and training provision.
- Facilitate the validation of non-formal and informal learning.
- Facilitate the transfer and use of qualifications across different countries and education and training systems.
- Transfer units of learning outcome, based on a credit system (ECVET).

It also recognizes that Europe's Education systems are so diverse that comparisons based on inputs, such as a length of study, are impracticable.

Why an update in 2005 EHFA Standards?

The 2004-2005 EHFA Standards Project was the first of its kind for the European Fitness Industry, but now with its much expanded position and broader base of stakeholders (which includes 16 national associations, 70 separate members and represents over 9000 fitness facilities), EHFA has a central role and mandate to ensure that standards are current, forward looking, and carry the consensus of the industry.

The original work pre-dated the completion of the EQF, and when the level descriptors are applied to the original work, some re-alignment is to be expected. The emphasis from the EU is now about learning outcomes for all training programmes, rather than the more tradition input-driven approach. This means that the 2005 Standards need to be more concisely drafted, and will also allow the opportunity to remove a considerable amount of repetition in the earlier work.

More than 30 technical experts across Europe volunteered to assist with the review and expansion of EHFA Standards, and this considerable resource needs to be focused on priorities of updating following the launch of EREPS in 2008.

The wider international position provides other referencing points that should be taken into consideration when the true question of mobility for workers and learners is taken into account. National positions are established in Australia and New Zealand and in the USA there are four VET providers who, being evidence-based, also provide good benchmarking and referencing for the European position. Many EU countries are now developing their own national standards and qualification

frameworks which place a requirement on EHFA to keep the pan-European standards complete and up to date.

Some criticism has been levelled at the 2005 Standards for being too lengthy, meaning that they are costly in translation, and also that they are too proscriptive in their present way of application.

What does the EQF mean for the Fitness Industry?

Raising and developing skills for exercise professionals is more important than ever with new opportunities and responsibilities for the fitness industry to play its part in getting **more people, more active, more often**. Training organisations must adapt and develop to deliver the skills that the industry and employers want and expect. Importantly, individual exercise professionals want their achievements recognised through an independent process based on accepted European standards. If there are common standards and processes then the outcomes can be the same and transferable. As a European solution, the EQF is the backbone of this process.

The diverse start point for VET across Europe requires a central referencing point and the EQF with fully referenced EHFA standards provides the answer. All EU member states are adopting the EQF with their implementation in 2010-2011. This will bring about the end of input driven training and learning, and now EHFA needs to take the lead for the fitness industry.

As part of the review and expansion of its standards EHFA is developing its own 8-level sector framework which will be referenced to the EQF. This will make national referencing easier for VET and higher education providers, and better for national government understanding.

The fitness industry needs more openness and transparency in the content and processes used for training its workforce. At present there are wide variations so better consistency is required. With a complete sector framework it will be more transparent for the awarding of national recognition of qualifications that are in compliance with pan-European standards.

The reality is already upon us as some member states have already referenced their national frameworks against the EQF. DG EAC (European Commission) sees this as an important principle to help improve the mobility of workers. The fitness industry is already effectively borderless. For workers and learners to move between different countries we need to understand different qualification systems – and the EQF acts as the central "leveller". The lead in standards development being taken by EHFA opens the prospect of the fitness industry determining its own framework. This will help everyone to better understand the actual occupations in the industry and therefore the training requirements to support these roles.

The challenge for EHFA and the industry is to identify and collectively agree on what are the jobs and skills required for today and then to look into the future.

What should be the positive impact of the new Standards and the application of the EQF for our Industry in the next future?

With the ratification of the **Lisbon Treaty** comes the prospect of the European Commission agreeing to the competencies for workers in sport, and this includes the fitness industry. If we are organized as an industry in our approach and can

determine our own competencies for workers we will effectively be able to self-regulate. Creating competency standards based on the structure of the EQF across all 8 levels will demonstrate to other occupations and professions that not only is the fitness industry well-regulated, but we will have used the same meta-framework of the EQF that they do for comparative levels of qualifications. This should help other occupations and professions – and consumers - to better understand the relationship of job roles and purposes.

The new standards and sector framework will help to raise the credibility and accountability of the industry. Every training provider certificate and EREPS registration information will contain the relevant EQF level making qualifications and achievement against the EHFA standards much more understandable and transferrable.

With better understanding it will possible to provide detailed labour market intelligence, giving evidence on skills gaps and shortages, and helping to direct the industry towards trends so that the skills of the workforce can match expectations and demands. Training providers – in both VET and in HE – will better placed to understand the needs of the industry.

More information about EU-EQF is available at: www.ec.europa.eu/eqf

Job Purpose as the Foundation for Fitness Qualifications

In the current fitness industry, some occupational qualifications are not aligned with the industry purpose of 'more people, more active, more often'. This has happened predominantly as the result of a focus on input (amount of learning, product oriented learning) instead of output (work outcomes, customer oriented) learning.

To achieve its purpose the industry needs to become more market oriented, which means that it should listen to its users and to deliver according to their needs. It should therefore shift from an inward, product focus, to an outward, customer focus. For fitness occupations this means they should aim at delivering the experiences and results that people need, giving these jobs a real purpose. Job qualifications – that is the knowledge, skills and competencies - should enable the achievement of these job purposes.

The focus for the future should not be on qualifications, but on the outcomes of the work. Education should become more purpose or output driven instead of qualification or input driven. The learner should be central to the process.

What a person should know and be able to do in a certain fitness occupation depends on an understanding of the purpose of that role. This can only be achieved through delivering certain work outcomes and in meeting expectations of performance. In other words, learning outcomes should be determined by desired work and customer requirements delivered in a quality controlled way. A job is only performed well if it achieves what it's supposed to achieve.

Therefore, the correct way to determine the content of specific job qualification is:

1. To define the purpose of the occupation.
2. To determine which work outcomes (output) lead to achieving that purpose.
3. To determine which qualifications (knowledge, skills, competencies, range of application) are necessary to be able to deliver those outcomes.

Any definition of occupational purpose should include the interests of the major stakeholders, which in case of the Fitness Industry are:

- For the participant: fitness results from safe, effective exercise.
- For the professional: meaningful work, and recognition of achievement.
- For the business/facility: more participation/members/profit.
- For the Industry: 'more people, more active, more often'.

These together form the desired work outcomes of an occupation. Qualifications for fitness occupations should be solely based on the achievement of their purpose. This also applies to all other occupational content (roles, tasks, etc.).

Consequences for Standards Development

What are the consequences of using the customer oriented job purpose as the foundation for determining the necessary qualifications and developing standards for these qualifications?

First of all, fitness occupations should be categorised based on their purpose or what they are trying to achieve for their customers. The current practice is to categorise occupations in a product oriented way, which means that more and more 'professions' are being added as they deal with new exercise options or even equipment. From a consumer's perspective however, it's the fulfilment of their need that counts, not the chosen exercise option. Therefore in the new thinking the purpose of a fitness instructor is *To build fitness participation of new and existing members through fitness experiences that meet the participants' needs.* Note that this purpose contains the interests of all industry stakeholders involved. To achieve this purpose a fitness instructor needs to deliver certain outcomes, and these are independent of the chosen exercise type.

As in the case of personal training consumers have different needs and expectations, so a personal trainer will have a different purpose than that of a fitness instructor, even though the applied exercise types can be the same. For a certain exercise option, such as for Pilates, this may can be offered by a fitness instructor, or a group fitness instructor, or a personal trainer. They will all have different job purposes, but they can use the same exercise type, although some specific product knowledge and skills may be required to deliver the specific exercise option.

However, depending on the occupation the professional still needs to meet the qualifications for that occupation. But, these qualifications are determined by the **occupational purpose**, and not by the chosen exercise modus.

In purpose-oriented thinking however, these are not substantial enough to require a separate occupation, qualifications or qualification level. It is also important to note that qualifications should be about the minimum that professionals need to master, not the maximum.

Following the same logic, music is not necessarily a component of group exercise and so "Group Exercise to Music" should be a subcategory of Group Fitness Instruction. Teaching to music does require specific skills as does teaching to a group, but as these skills do not influence the purpose of the occupation there is no need for a separate occupation.

As another example, Aqua Fitness Instruction refers to an exercise *modus* and should therefore not be considered as a separate fitness occupation. Although some specific knowledge or skills may be required, again these skills do not determine the occupational purpose. As it's an exercise modus, Aqua Fitness can be also be offered through a PT session, in which case the professional should meet the qualifications of being a PT, plus the specific knowledge and skills required.

More Job Purpose Thinking

The quality of a professional's work is determined by its outcomes, not by whether they meet the qualifications. So when we say someone is "good at their job", we should not mean they meet all the qualifications for the job, but that they deliver the desired outcomes. Certificates and diplomas are not a measure of quality but of a standard for the *minimum* quality required. It is just like having a driver license. By itself it doesn't make you a good driver, it merely allows you to drive and to possibly develop and practice to become one. So, for example, delivering safe and effective exercise is not only about a qualification that needs to be met, but are the purpose of the fitness job.

Occupational purpose can strongly impact the growth of businesses and the industry by providing a new context and impetus to fitness professionals and to help them achieve the desired outcomes of their work. These purpose-driven professionals in turn will better lead customers to achieve the desired experiences and results that they seek. Occupational purpose should drive occupational standards and help recruit people with the right motivation and skills, who can help us to create value and acquire and retain more members or customers.

Qualifications should be based on the everyday practice in which people visit fitness centres and want to participate in activities to achieve their desired fitness results. We need people that love their work if we want to attract and retain members.

For any facility or club the number one purpose of a fitness occupation should be in contributing to the success and profitability of the business. This applies to commercial as well as not-for-profit facilities and operations.

Based on this new thinking and with agreement from the technical experts contributing to the review of the original 2005t EHFA Standards an "evolution" has begun. The original Standards have not been raised further in content areas (that were possibly overrated in some technical areas), but will have been referenced in a detailed way to the EQF level descriptors. The focus for the future of the Industry should not be on qualifications, but on the outcomes or results of work.

Wherever new people are recruited into the Industry, this should be based on their motivation and people skills instead of only on their technical qualifications and exercise related knowledge. The change is that education and the new Standards should be purpose and outcome driven, and not qualification or input driven.

Brussels, March 2010
EHFA Standards Council

SETTING THE STANDARDS
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EHFA EQF Level 4 Skills and Underpinning Knowledge for Personal Trainers as part of the EHFA Learning Outcomes Framework

EHFA Personal Trainer

This chapter supports the EHFA B1 Competence Framework and contains the essential Skills and Knowledge written as Learning Outcomes, based on job purposes, required to work as a Personal Trainer in the European Health and Fitness Industry at the EQF-Fitness Level 4, where EQF 3 Instructor knowledge is a pre-requisite.

These Standards and the Education associated are purpose and outcome driven, aligned with the industry main goal to get 'more people, more active, more often'.

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Notes:

- Health and safety issues are integrated in other units.
- It is assumed that the Advanced Instructor (Level 4 EQF, Personal Trainer) will have acquired all knowledge required to work as a Basic Instructor as identified in the EHFA Basic Instructor Guide (Level 3 EQF, Fitness Instructor).

Introductory information

What does level 4 means at EQF?

Level of the EQF	**Knowledge** is described as theoretical and/or factual.	**Skills** are described as cognitive (involving the use of logical, intuitive and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments).	**Competence** is described in terms of responsibility and autonomy.
The learning outcomes relevant to **Level 4** are	Factual and theoretical knowledge in broad contexts within a field of work or study	A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	Exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change. Supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities.

What does level 4 mean at Fitness QF?

EQF Level	**Occupation**	**EHFA Standards**	**Target Audience**
Level 4	Personal Trainer	EHFA Level 4	General Population

EQF Level 4

Skills and Underpinning Knowledge for Personal Trainers, part of the EHFA Learning Outcomes Framework

Occupational Title

Personal Trainer

Job purpose

Coach clients individually according to their fitness needs, through an agreed exercise/ physical activity plan and assist with behavioural change**.**

Occupational Description

A personal trainer's role includes designing, implementing and evaluating exercise/physical activity programmes for a range of individual clients by collecting and analyzing client information to ensure the effectiveness of personal exercise programmes. A personal trainer should also actively encourage potential

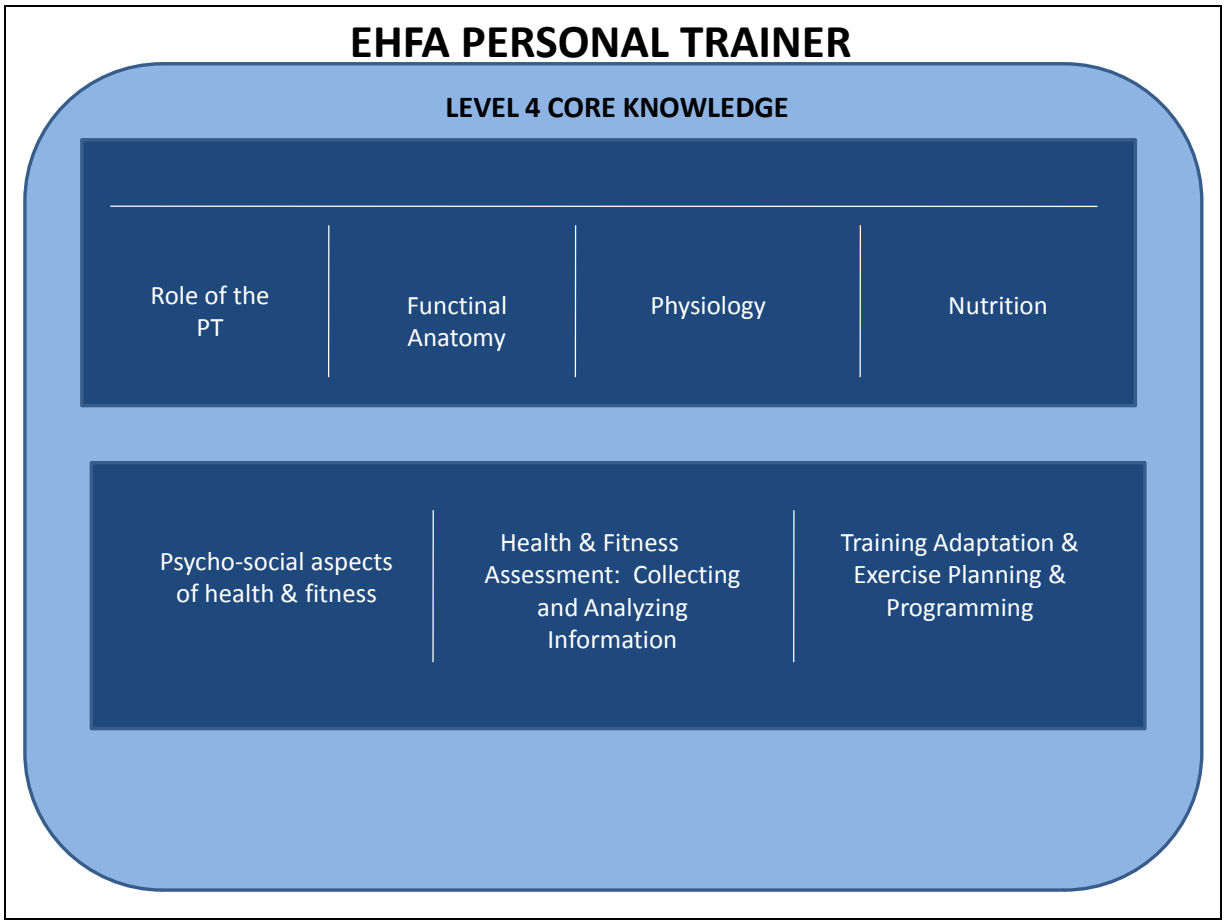
clients/members to participate in and adhere to regular exercise/physical activity programmes, employing appropriate motivational strategies to achieve this.

Occupational Roles

The personal trainer should be able to:

1. Collect information relating to individual clients
2. Carry out fitness assessments to establish client fitness and skill level
3. Analyze information relating to individual clients
4. Identify, agree and review short, medium and long term goals to ensure the effectiveness of exercise programmes
5. Provide a range of exercise programmes in accordance with the needs of the clients by applying principles of exercise programming
6. Make best use of the environment in which clients are exercising
7. Provide clients with accurate information on the principles of nutrition and weight management
8. Develop and applying strategies to motivate clients to join and adhere to an exercise programme
9. Deliver good customer service and be a positive role model at all times and keep up to date with industry developments
10. Promote healthy activities and related strategies for daily living to clients/members
11. Make the appropriate decisions relating to clients and their programmes/goals and, where required, refer the client to a more appropriate professional
12. Work within the parameters given at Level 3, recognizing the standards and professional limitations that this provides, referring to appropriate members of staff for guidance and support.

EHFA Level 4 Personal Trainer
Knowledge Areas



Section 1: Role of the PT

Section Overview

- Knowledge and understanding of the basic roles of the Exercise professional as a Personal Trainer.
- Knowledge and understanding of the principles that underpin personal training and how personal training differs from other types of physical activity/exercise instruction.

Section Headings

1.1 Professionalism, Code of Practice/Ethics/National Standards and Guidelines

Learners should demonstrate knowledge and understanding of:

- The ethical requirements that are intrinsic to the Personal Trainer role as stated in the EHFA and EREPS code of ethical practice (for more information take level 3 or visit www.ereps.eu)

1.2 Presentation

Learners should demonstrate knowledge and understanding of:

- Basic procedures to introduce him/herself to new clients.
- General rules for customer care
- The basic principles of customer care to include perceived benefits
- The methods and practices, which contribute to effective customer care
- The skills of effective customer care: *Communication, Body language, Negotiation*

1.3 Communication

Learners should demonstrate knowledge and understanding of:

- The personal communication skills necessary to develop rapport in order to motivate individuals to begin exercise, adhere to exercise and return to exercise early.
- Building rapport:
    - The importance of connecting people : body language: posture – eye contact, facial expression, vocal tonality (tempo, intensity, voice inflection)
    - Primacy effects: smiling, mimicking...
    - Using sensory communication (visual, auditory, kinesthetic pattern) to improve communication and orientation of the client.
    - The use of open-ended questioning, reflecting answering
- Motivational Interviewing:
    - Developing "importance", "confidence" and "readiness"
    - Dealing with resistance to change
    - Using open-ended question, reflecting answering, summarizing
    - Technique of decisional balance sheet

- Removing barriers, problem solving and enhancing benefits of practicing physical activity
- Motivational Strategies:
  - The most important and effective behavioural strategies to enhance exercise and health behaviour change (e.g. reinforcement, goal setting, social support, problem solving, reinforcement strategies, self-monitoring, etc.)
  - Knowing about the different stages of change of the trans-theoretical model Prochaska and Di Clemente, being able to use basic strategies for different stages.
  - Using the sensory representational system (Visual, auditory, kinesthetic) to optimize an individual's training session
  - Definition and practical examples of extrinsic and intrinsic reinforcement.
  - Relapse prevention: planning, problem solving, identifying and changing negative thinking.

1.4 Health Promotion

Learners should demonstrate knowledge and understanding of:

- The cardiovascular, muscular and flexibility related benefits of physical activity and the significance of these benefits in reducing risk of disease.
- Appropriate exercise activity required for health benefits and fitness benefits
- The barriers and motivators to exercise participation
- The exercise guidelines for health, well-being and physical fitness.
- The exercise continuum for different levels of physical activity to include relative benefits.
- The agencies involved in promoting activity for health in your country
- How to promote a healthy lifestyle: *Nutrition, other opportunities for physical activity in everyday life, smoking*

1.5 Plan and Deliver Personal Training

Learners should demonstrate knowledge and understanding of:

- The principles that underpin personal training and how personal training differs from other types of physical activity instruction
- The difference between planning supervised and unsupervised activities and how to build these into a timetable of sessions
- The types of environment within which personal training may be delivered and how to make best use of these
- Specific health and safety issues about delivering personal training in an environment not designed for physical activity instruction
- How to improvise effective activities with the client according to the resources available
- The importance of maintaining frequent contact with the client, including between sessions
- The proactive role of the Personal trainer regarding the adaptation process in each individual especially at the beginning of the training programme.

- The importance of provide a proper dose response relationship according to the level of the individual
- The importance of regular and planned communication strategy regarding the training adaptation process.

Section 2: Functional Anatomy

2.1 Functional Kinesiology/Biomechanics

Learners should demonstrate knowledge and understanding of:

- The body's 3 anatomical axes and planes including the terms Frontal (Coronal), Sagittal and Transverse.
- The classification of joints in the human body (Fibrous, Cartilaginous and Synovial) focusing on their functional significance including examples of each type and sub-types of joint.
- The importance of ensuring that movement at all joints is kept in the correct planes throughout exercise performance for prevention of ligament strain and potential risk of injury (e.g. at shoulder joint, inappropriate biomechanics can place a strain on the rotator cuff muscles increasing risk of osteoligamentus injury).
- Stability and movement within each type of joint
- Classification of bones – to include long, short, flat, irregular, sesamoid, relating structure to function
- Role of osteoblasts and osteoclasts, hormonal contribution in bone density.
- Bone density and its relation to resistance training activities
- Long & short term effects of exercise on bone to include osteoporosis
- Articulations and the joint movements possible. To include the following movement terms with examples: flexion, extension, hyper-extension, adduction, abduction, elevation, depression, protraction, retraction, lateral flexion, horizontal flexion and extension, plantar flexion, dorsi-flexion, internal and external rotation, circumduction, pronation, supination, eversion and inversion
- The main bones and their implications for vital functions and movements.
- The vertebral column: structure and function – role of curves
- The importance of maintaining the correct degree of spinal curvature at the cervical, lumbar and thoracic vertebra regarding weight-bearing and biomechanical efficiency and for the transmission of stress, caused by impact, through the pelvic girdle, kinetic chain and muscle synergies
- Abnormal degrees of curvature in the spine (lordosis, kyphosis and scoliosis) and their importance to exercise safety and the design of appropriate activities
- The high risk of shoulder joint displacement and increased scapular stabilising role of the surrounding synergistic musculature and ligaments
- The potential for sprains and ligamentus damage increased by excessive non-functional movement during activities, such as running
- The main structural and physiological characteristics and functions of the osseous connective tissues to include the periosteum, ligaments (dense regular collagenous/elastic fibres), joint capsule (dense irregular, elastic, collagenous), fasciae

- The structure of ligaments and their tensile strength related to fibre direction and their sensitivity to shearing forces and tearing
- Biomechanical principles of movement - to include 1st, 2nd and 3rd class levers with examples. (e.g. calf raises for 2nd class lever and flexion of the elbow for 3rd class lever)
- Biomechanical implications of different centres of gravity in relation to posture and patterns of adiposity
- Open and closed chain kinetic movements with examples of each and a consideration of their advantages and disadvantages.

2.2 Muscles

Learners should demonstrate knowledge and understanding of:

- The 3 types of muscle in the human body (skeletal, smooth, cardiac)
- The gross anatomy and structure of a skeletal muscle and its connective tissue.
- The connective tissue of muscle merging into tendons composed of regular collagenous filaments
- Muscle shape and fibre arrangement including directional forces and line of pull (uni-pennate, bi-pennate, multi-pennate)
- The role of proprioceptors of tendons.
- The interaction between the contractile filaments of muscle (actine and myosine)
- The role of a motor unit (i.e the nerve and the muscle fibers which it innervates) in providing an 'action potential' to create fine or course muscle control
- The structural features and characteristics of Type 1 (slow twitch) and Type 2A (fast twitch/intermediate) and Type 2B fibres and the implications of exercise intensity on the recruitment sequence of different motor unit types
- The different types of muscular contractions (concentric, eccentric, isometric, isotonic and isokinetic)
- The effect of each type of muscular contraction on training adaptations and the way muscles can be influenced by different training modalities (e.g. body position in relation to gravity, aqua workouts and partner work)
- The likely relationship between delayed onset of muscular soreness (D.O.M.S.) and both eccentric, concentric and isometric muscle work
- The major muscles of the body defining their starting points in terms of the bones they originate from (though in most cases NOT the exact anatomical part of the bone), the joints that they cross and the bones that they insert onto (finishing point)
- The joint actions as a result of muscular action.
- A range of actions and activities, the agonists, antagonists, main synergists and fixators
- The functional role of abdominal muscles in synergy with other muscles on the trunk, rib cage, pelvis and vertebral column.
- Role of muscles like gluteus and latissimus dorsi and thoraco-lumbar fasciae
- The importance of correct involvement of the hip flexor muscle, Iliopsoas in core stability training

- Role play by hip flexors muscles iliopsoas complex and pelvic floor in core training
- Short and long term effects of exercise on muscles.

Section 3: Physiology

3.1 Energy Systems

Learners should demonstrate knowledge and understanding of:

- The 3 energy systems used for the production of ATP in working muscle - the alactic anaerobic phospho-creatine (PC) system, the anaerobic lactate system and the aerobic system.
- The effect of the type of exercise, intensity, duration, fitness levels, nutritional level on the 3 energy systems.
- The way to use the 3 energy systems in correlation to the goal of the client
- The way to use acute variables during training to create the different energy system.
- The terms aerobic and anaerobic threshold
- Effects of interval training and EPOC effects on the metabolism.
- The ability of the body to burn fat throughout a range of intensities (not just low intensity) e.g. if the aerobic threshold is raised you can utilize fat more effectively at higher intensities
- The relationship between METs and kilo calories and the prediction of calorie expenditure based on body weight, exercise MET level and duration with examples of different activities and their MET values
- The methods of monitoring exercise intensity - to Include; RPE - 6 to 20 or 0 to 10 - talk test, heart rate monitoring, (age related and Karvonen) the benefits and limitations of each method
- The use and amounts of energy nutrients at different intensities

3.2 Cardiorespiratory System

Learners should demonstrate knowledge and understanding of:

- The anatomy of the heart to include the names and location of the heart valves, muscular component and flow of blood through the heart
- The cardiac cycle and the terms stroke volume (amount of blood pumped per beat) and cardiac output (amount of blood pumped per minute = stroke volume x beats per minute)
- The structure, function and characteristics of arteries, arterioles, veins, venules and capillaries
- The effect of physical activity on cardiovascular system
- Understanding the effect of medication for the cardiovascular system and their impact on training.
- The respiratory system: description and function.
- The relationship between the cardiovascular system and respiratory system and how regular physical activity impacts them
- The passage of inhaled air from the atmosphere to cellular level and back to.
- Healthy lifestyle choices and their positive effect on cardio respiratory tissues, e.g. the effects of smoking or alcohol consumption.

- Short and long term effects of exercise on the cardiorespiratory system to include short term – increase in heart rate, increase in breathing rate, effects of building up of CO2 in bloodstream. Long term effects including increase in stroke volume, lower resting heart rate, reduced risk of heart disease, reduction of high blood pressure, improved blood cholesterol, reduction of body fat and increased every day function etc.
- Coronary Heart Disease and risk factors that can manipulate it such as smoking, high blood pressure, high blood cholesterol, physical inactivity, diabetes mellitus, family history, age, stress, obesity.

3.3 Nervous & Endocrine System

Learners should demonstrate knowledge and understanding of:

- The main responsibilities of the nervous system to include:
    - Sensory Input – monitoring events in and outside the body
    - Interpretation – analysing data
    - Motor Output – response to incoming data
- The two parts of the nervous system – the Central Nervous System (CNS) incorporating the brain and spinal cord and the Peripheral Nervous System (PNS) consisting of all nerves extending from the spinal cord, to include:
- The role of the CNS in receiving input from the sense organs and receptors about the state of both the external and internal environment, collating all of the information and sending out messages via the motor neurons of the PNS to effectors (muscles and glands)
- The PNS and its divisions into Somatic and Autonomic branches
- The Somatic branch terminating at the neuromuscular junction controlling movement under voluntary control
- The role of the Autonomic Nervous System in controlling cardiac and smooth muscle, the endocrine glands that secrete hormones and other organs, thereby regulating their activity
- The two opposing branches (to include the neurotransmitters and receptors) and their roles e.g. Sympathetic nerves speed up responses (e.g. heart rate) and mobilise energy stores to get us ready for action. Parasympathetic nerves slow things down and are more active during periods of calm and relaxation
- Regular activity for the nervous system which enhanced hard wire neuromuscular connections and improves all of the features of motor fitness such as reaction times, balance, spatial awareness and coordination etc.
- Description of hormonal response to exercise and their catabolic and anabolic role.
- Link between type of exercise intensity and hormonal reaction for specific goals like weight loss programme, muscle building and wellness programme.
- Role of cortisol and side effects of too high production.

Section 4: Nutrition

Learners should demonstrate knowledge and understanding of:

- The dietary role and common dietary sources for each of the six main nutrients (carbohydrate, fat, protein, vitamins, minerals, water).

- Balance between saturated and unsaturated fatty acid and effects on health.
- The importance of right intake of essential fatty acids (Omega 3 and 6) and their effects on health.
- The role of vitamins and minerals in cells metabolic process
- The role and desirable levels of total cholesterol, HDLs and LDLs in the body, including the total cholesterol/HDL ratio.
- Examples of food items in each of the four basic food groups;
- Examples of food items for vitamins and minerals intake.
- The components of the energy balance basal metabolic rate, thermic effect of food, physical activity level)
- Methods to estimate calories requirements
- How to develop a healthy, balanced way of eating;
- Healthy eating patterns;
- How dietary intake influences health; how lack of micronutrients (vitamins and minerals) influences health.
- Lifestyle advice, to include use of tobacco, alcohol, caffeine (current government guidelines);
- How some medical conditions (e.g. CHD, diabetes mellitus, obesity, ostheoporosis) may be impacted by nutrition (general advice).
- Energy needs for different activities/sports/fitness plans;
- The role of carbohydrate, fat and protein as fuels for aerobic and anaerobic exercise;
- Safe and effective advices about eating pattern for weight (fat) loss/gain; energy balance; appropriate 'weight' loss goals;
- Appropriate referral/advice organisations
- Analysis of current weight-loss fads and popular diets

Section 5: Psycho-social aspects of health & fitness

Learners should demonstrate knowledge and understanding of:

- The different underlying motives for goal setting (internal & external motivation)
- The psychological aspects of health and fitness, which are influential to health and fitness behaviour change (e.g. behaviour modification, reinforcement, goal setting, social support and peer pressure etc.).
- The application of basic cognitive-behavioural intervention such as shaping, goal setting, motivation, cueing, problem solving, reinforcement strategies, and self-monitoring.
- Motives and barriers, perceived and actual to participation in physical activity (e.g. relapse prevention model, self liberation, social liberation, etc.).
- Appropriate models for change such as the 'Prochaska & DiClemente' models and the characteristics of an individual at each stage and the appropriate interventions/strategies at each stage (e.g. decisional balance, self efficacy, fitness testing, stimulus control, reinforcement management & counter conditioning etc.).
- The selection of an appropriate behavioural goal and the suggested method to evaluate goal achievement for each stage of change.
- Signs and symptoms of stress, the effects of stress on health and strategies for dealing with stress. (please refer to level 3)

Section 6: Health & Fitness Assessment: Collecting and Analysing Information

6.1 Components of Fitness

Learners should demonstrate knowledge and understanding of:

- The 3 different somatotypes (endomorphic, ectomorphic and mesomorphic) focusing on the implications of each body type for exercise capacity and ability to alter body shape.
- Anatomical and hormonal differences concerning males and females and their influence on safe, effective and appropriate physical activity.
- The health and skill related components of total fitness and their definitions to include:
    - Health related:
        - Muscular strength
        - Muscular endurance
        - Cardio respiratory endurance (heart and lungs)
        - Flexibility
        - Body composition
    - Skill related:
        - Balance (static and dynamic)
        - Coordination
        - Reaction time
        - Power
        - Agility

6.2 Collecting and Analysing Information

Learners should demonstrate knowledge and understanding of:

- Appropriate information relevant to the ability to negotiate goals that are Specific, Measurable, Achievable, Realistic, Time bound to plan and carry out safe and effective programmes to enable thorough evaluation of planning options
- Correct screening procedures for:
    - Physical; previous and current level of activity and interests. Evaluation of current levels of all components of fitness - muscular strength, muscular endurance, cardio-pulmonary fitness, flexibility and motor skills (balance & coordination)
    - Psychological; motivation to participate, perceived and actual barriers to participation, stage of readiness to participate and stated future goals and aspirations
    - Medical; health history, current health status, particularly in relation to risk factors for heart disease, the identification of medical conditions that would necessitate medical clearance and past and present injuries and disabilities
    - Lifestyle; work patterns, eating patterns, relevant personal circumstances, likes, dislikes and preferences toward physical activity

- The screening process to identify: risk factors for coronary heart disease; factors that limit the ability to participate/achieve goals; those requiring a referral to an appropriate medical professional or other clinician or medically supervised exercise programme.
- How to adapt basic programmes for participants with particular needs including: sedentary, recovering from injury, over-trained, peak performer, sport specific performer, obese.
- Appropriate use of:
    - Medical questionnaires: Physical Activity Readiness Questionnaire (PAR-Q), medical clearance, informed consent, psychological questionnaires, lifestyle questionnaires etc.
    - Other professionals: GP's, Physiotherapists, Neuromuscular therapists, Consultants etc.
    - Fitness assessments: cardio-respiratory fitness, muscular strength, muscular endurance, flexibility, postural analysis, body composition, contraindications and limitation for testing.
    - Postural assessment – to include:
        - Optimal postural alignment
        - Postural deficiencies and postural deviations
        - Factors affecting posture
        - Posture and client health
        - Static and dynamic postural analysis
        - Selection of suitable assessments
        - Factors to assess
        - Limitations of Personal trainer
- Appropriate health and fitness assessments specific to the client needs

Section 7: Training Adaptation & Exercise Planning & Programming

7.1 Training Adaptation

Learners should demonstrate knowledge and understanding of:

- The principles of adaptation and modification for each component:
- The continuum between muscular strength (predominantly type 2 fibres) and muscular endurance (type 1 fibres) and neuromuscular efficiency
- Muscular strength influenced by use of high resistance and low repetitions so that motor unit recruitment is maximised and contractile limits are reached
- Muscular endurance enhanced by lower resistance loads and higher repetitions resulting in the build-up of lactic acid and inducing inhibition of further muscle contraction
- Increased endurance capacity in muscles developed between exercise sessions by the acquisition of increased numbers of mitochondria, oxidative enzymes and capillaries leading to increased oxidative ability within muscles
- The repetition ranges for strength, power, endurance and muscle hypertrophy
- The range of heart rate training zone models (e.g. aerobic training zone, fitness zone) for developing aerobic and anaerobic capacity
- Interval, fartlek principles and practical application
- The principles of training including specificity, progressive overload, reversibility, adaptability, individuality and recovery time

- The effects of health related physical activities, to include resistance training (e.g. Improved posture, reduced risk of joint & soft tissue injuries, increased bone density, improved neuromuscular efficiency etc.), cardiorespiratory training (reduced risk of CHD, improved body composition etc.) and range of motion training
- The principles of periodized training programmes in developing components of fitness
- The use of short, medium and long-term goals. (micro, meso and macro-cycles)
- The use of volume vs. intensity through the periodization stages
- The various methods of range of motion (flexibility) training, the advantages and disadvantages of each, including static, ballistic, dynamic and proprioceptive neuromuscular techniques (including myotactic) to facilitate increased range of motion
- The role of the muscle spindle cells and the golgi tendon organs in these mechanisms (including myotactic reflexes, Contract Relax, Antagonist, Contract)
- The current ACSM or other recognized International guidelines for developing the different components of fitness, emphasizing the distinction between activity for health and exercise from evidence-based information.
- The importance of adequate rest phases between training loads and the signs and symptoms of overtraining
- The principles **F**requency **I**ntensity **T**ime **T**ype for health and skill related components of fitness.

7.2 Exercise Planning & Programming

Learners should demonstrate knowledge and understanding of:

- The principles of overload, specificity, progression and general adaptations and how they relate to exercise programming and a variety of individual wants, goals and needs
- The signs and symptoms of excessive effort that would indicate a change of intensity
- The ability to recognize correct exercise technique to include appropriate positioning, correct settings for CV machines and general safety considerations
- The ability to modify exercises appropriate to a variety of individual needs
- Training variables to include:
    - Choice of exercises
    - Sequence of exercise
    - Resistance and Repetitions
    - Number of sets
    - Rest between sets (recovery)
    - Speed of movement
    - Type of muscle contraction
    - Duration of session
    - Rest between sessions
    - Volume of training
    - Split routines

- The use of the above variables to develop Strength, Endurance, Hypertrophy, Speed, Power
- The advantages and disadvantages of exercising at various intensities for: sedentary (untrained) experienced (trained), high performers (well trained)
- Calculations of repetition maximums (1RM – 10RM).
- Commonly used resistance training systems evidence-based to include:
    - Single set training
    - Circuit resistance training
    - Basic sets
    - Super setting (agonist/antagonist)
    - Super setting 2 exercises for same muscle
    - Pyramid systems
    - Forced repetitions
- Commonly used Cardio Respiratory training systems to include:
    - Interval
    - Fartlek
    - Aerobic
    - Anaerobic
    - Peripherial Heart Flow training
- The suitability of each training system for the client, when fitness levels and goals are considered.
- Safe and effective use of equipment.
- The basic principles of progressive programming.
- The reasons for using periodization.
- The basic principles of periodization to include: the main two variables, volume and intensity.
- Macrocycles (long term), Mesocycle (medium term) Microcycles (short term).
- Teaching strategies to enhance the individual performance.
- Appropriate methods to adjust programmes to meet the changing needs and circumstances of clients.
- Methods of monitoring exercise intensity to include:
    - Maximum heart rate formula
    - Rate of Perceived Exertion (RPE) scales, both 6-20 and 1-10
    - Metabolic equivalents (METs)
    - Kilocalories per hour (Kcal.hr)
    - Visual assessment and Verbal assessment (talk test)
- Understand the own limitations and when to refer clients to other relevant professionals, e.g.: exercise specialist, medical professional

EHFA L4 STANDARDS & COMPETENCIES FRAMEWORK

This document describes the EHFA Competence Framework and contains the essential Competences, associated to Skills and Knowledge written as Learning Outcomes, based on occupational purposes, required to work as a Personal Trainer in the European Health and Fitness Industry at the EQF-Fitness Level 4, where EQF 3 Fitness Instructor knowledge is a prerequisite. These Competence Framework, the Standards and the Education associated are purpose and outcome driven, aligned with the industry main goal to get 'more people, more active, more often'.

The Units in the document, based in the core knowledge established, are broken down in to competencies, skills and range. This document should be read in conjunction with the **EHFA European Level 4 Knowledge Requirements** which describe the knowledge which underpin the skills of the Personal Trainer.

Contents:

Section 1: Role of the PT

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should demonstrate **knowledge** and **understanding** of:
Follow a Professionalism and Ethics Code of Practice	Demonstrate responsibility and professional duty of care to clients	• Client Safety and wellbeing • Legal responsibilities • Compliance with National Health and Safety policies • Ethics and professional conduct	**1.1 Professionalism, Code of Practice/Ethics/National Standards and Guidelines** (EHFA/EREPs Code)
Provide interactive communication with club members	Demonstrate proper communication skills and customer care orientation	• Basic procedures to introduce him/herself to new clients. • General rules for customer care • Basic principles of customer care to include perceived benefits • Methods and practices, which contribute to effective customer care • Skills of effective customer care: Communication, Body language, Negotiation	**1.2 Presentation** **1.3 Communication**
Enthuse and motivate clients to develop and maintain their fitness	Capability to develop rapport in order to motivate individuals to begin, adhere and /or return to exercise early	• Building rapport • Motivational Interviewing & Strategies • Most important and effective behavioural strategies to enhance exercise and health behaviour change • Different stages of change of the trans-theoretical model, being able to use basic strategies for different stages. • Examples of extrinsic and intrinsic reinforcement • Relapse prevention	**1.3 Communication**

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should demonstrate **knowledge** and **understanding** of:
Inform client of the benefits of a healthy lifestyle	a. Educate client on the components of a healthy lifestyle and the health implications for each component	• Nutrition • Smoking • Alcohol • Relaxation • Stress management • Physical activity outside the gym • Active lifestyle • Posture • Effects on health and wellbeing	**1.4 Health Promotion**
	b. Provide client with accurate information about recommended amount of physical activity required to achieve health benefits	• Recommended guidelines from appropriate National or International authorities o Professional Associations o Industry standards	**1.4 Health Promotion**

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should demonstrate **knowledge** and **understanding** of:

Plan and prepare for an exercise session	a. Collect, record and analyse accurate information about the facility and the participant	• The facility
		  ○ Size
		  ○ Access,
		  ○ Equipment
		• The participant
		  ○ Fitness level
		  ○ Skill level
		  ○ Health history
		  ○ Aims of the participant
			1.5 Plan and Deliver Personal Training

	b. Set aims and objectives for the session in line with the needs of the client and the overall programme	• Exercise goals
		• Components of fitness
		• Client needs
		• Category of client
		• Stage of fitness
		  ○ Beginner
		  ○ Intermediate
		  ○ Advanced
		• Injury and medical status
		• Experienced/ inexperienced
			1.5 Plan and Deliver Personal Training

	c. Design the exercise session	• Session type
		  ○ Gym based
		  ○ Studio based
		  ○ Water based
		  ○ Sports hall
		  ○ Outdoors
		  ○ Client's home or other confined space
			1.5 Plan and Deliver Personal Training

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should demonstrate **knowledge** and **understanding** of:
Plan and prepare for an exercise session	d. Select modes of exercise within sessions	• Gym-based • Resistance Training • Resistance machines • Free weights • Cardio Vascular • Circuit training • Body conditioning • Stretch conditioning • Water based (shallow water; aqua circuit; transitional / deep water) • Home based or confined space (body weight or use of safe improvisation) • Outdoor based (body weight or use of safe improvisation)	**1.5 Plan and Deliver Personal Training** **7.2 Exercise Planning & Programming**
	e. Select activities and exercises for the session	• Appropriate to phase and goals of the Session • Appropriate to abilities of client • Assisted activities • Functional activities • Assisted modification • Proprioceptive training • Planned activities • Unplanned activities	**1.5 Plan and Deliver Personal Training**
	f. Apply principles of training	• Cardiovascular endurance • Muscular strength (Hypertrophy, endurance) • Flexibility • Body composition • Posture & Core stability	**1.5 Plan and Deliver Personal Training** **7.2 Exercise Planning & Programming**

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should demonstrate **knowledge** and **understanding** of:

Plan and prepare for an exercise session	g. Plan timings and sequences for the session	• Effective balance of
		  ○ Instruction
		  ○ Activity
		  ○ Discussion
			1.5 Plan and Deliver Personal Training

	h. Ensure access to appropriate resources	• Facility • Equipment	**1.5 Plan and Deliver Personal Training**
	i. Prepare equipment and facilities for the session ensuring compliance with industry and national guidelines for normal operating procedures	• Select appropriate equipment • Check equipment in good working order • Ensure sufficient space and appropriate layout for safe exercise • Ensure appropriate temperature and ventilation	**1.5 Plan and Deliver Personal Training**
	j. Assess and minimise risks before the session	• Facility • Equipment • Activities • Participants • Emergency procedures	**1.5 Plan and Deliver Personal Training**

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should **know** and **understand** the following

Teach client planned activities for the session	a. Utilise appropriate teaching methods and skills	• Communication
		  ○ Verbal – clear concise specific
		  ○ Using understandable terminology
		  ○ Non verbal – demonstration
		  ○ Individual management skills
		  ○ Creativity and improvisation
			7.2 Exercise Planning & Programming

	b. Observe and monitor participant in the session	• Safety • Intensity • Discomfort • Technique	**1.5 Plan and Deliver Personal Training**
	c. Assess participant performance	• Identify errors • Client feedback	**1.5 Plan and Deliver Personal Training**
	d. Correct and improve participant performance	• Correct technique • Provide instructing points • Feedback • Encouragement • Reinforcement	**1.5 Plan and Deliver Personal Training**
	e. Utilise the principle of reinforcement		**1.5 Plan and Deliver Personal Training**
	f. Ensure explanations and demonstrations are technically correct, observable, relevant, safe and appropriate to the participants	• Range of alternative exercises • How to break exercise movements down into their components • How to develop clients co-ordination Trainer technique & position • Appropriate to category participant	**7.2 Exercise Planning & Programming** **1.5 Plan and Deliver Personal Training**

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should **know** and **understand** the following

Teach client planned activities for the session	g. Adapt activities during the session	• Due to
		  ○ Clients needs and abilities
		  ○ Equipment & Facility
		  ○ Weather
			1.5 Plan and Deliver Personal Training

	h. Ensure participant carry out activities in a safe manner	• Technically correct • Safe and effective alignment of exercises • Appropriate to client needs and abilities	**1.5 Plan and Deliver Personal Training**
	i. Ensure all phases of the session plan are delivered safely and effectively within time constraints	• Time management	**1.5 Plan and Deliver Personal Training**
	j. Ensure participant's understanding of explanations and instructions	• Give opportunity for feedback	**1.5 Plan and Deliver Personal Training**
	k. Use of motivational strategies		**1.5 Plan and Deliver Personal Training**
	l. Make best use of the environment in which client is exercising	• Gym • Studio/Sports hall • Outdoors • Client's home or other confined space	**1.5 Plan and Deliver Personal Training**
	m. Follow the relevant guidelines for hands-on-contact with clients	• Code of Ethics • Health and Safety guidelines	**7.2 Exercise Planning & Programming**

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should **know** and **understand** the following
Teach client planned activities for the session	n. Utilise a range of advanced training techniques with your client	• Advanced resistance training systems • Advanced cardiovascular training systems • Others	**7.2 Exercise Planning & Programming**
	o. End the session, including the use of cool down activities that are safe and effective for the participants	• Using cool down activities appropriate to the session • Give participant opportunity to ask questions and provide feedback • Provide feedback to participant on performance and future sessions	**1.5 Plan and Deliver Personal Training**

Evaluate the session and personal performance	a. Evaluate the session	• Against
		  ○ Session aims,
		  ○ Goals
		  ○ Activities
		  ○ Participant performance
		  ○ Own performance (Preparation, Delivery)
		  ○ Health and Safety
			1.5 Plan and Deliver Personal Training
			7.2 Exercise Planning & Programming

	b. Amend and improve future session plans and own performance based on evaluation and feedback	• Record changes using appropriate format and systems • Identify strategies to improve performance • Review progress on an on-going basis	**1.5 Plan and Deliver Personal Training**

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should **know** and **understand** the following

Review and modify the programme on a sessional basis as appropriate to client progress	a. Obtain feedback from client on progress with the programme following initial induction to the programme	• Varied techniques to obtain feedback
		  ○ Instructor observation of client performance
		  ○ Frequent reviews to determine
		  ▪ Client perception of personal progress
		  ▪ Client satisfaction with programme
			1.5 Plan and Deliver Personal Training

	b. Modify programme according to client progress following initial induction to the programme	• According to:
		  ○ Individual activities
		  ○ Exercise intensity
		  ○ Client goals
		  ○ Changes in circumstances
		• Incorporating
		  ○ Principles of training
		  ○ Knowledge of health Related components of fitness
		  ○ Knowledge of exercise anatomy, physiology and biomechanics
		• Record modifications
			1.5 Plan and Deliver Personal Training

	c. Give feedback to client based on review	• Timely • Positive • Relevant to goals	**1.5 Plan and Deliver Personal Training**

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should **know** and **understand** the following
Monitor, evaluate and adjust programmes for individuals and groups	a. Undertake regular assessments to monitor client progress and achievement of goals	• Category of client • Individual or group assessment • Stage of fitness • Components of fitness • Appropriate to activity and programme • Lifestyle • Fitness levels • Adherence • Satisfaction	**1.5 Plan and Deliver Personal Training**
	b. Review client goals based on results	• Long term and short term goals • Category of client • Individual or group • Stage of fitness • Client needs, abilities, lifestyle and preferences	**1.5 Plan and Deliver Personal Training**
	c. Revise programme based on results and revised goals	• Components of fitness • Stage of fitness • Client needs, abilities and lifestyle • Exercise preferences • Available resources, services, time	**1.5 Plan and Deliver Personal Training**
	d. Maintain contact with clients between sessions and maintain their motivation	• Phone calls • Emails • Meetings	**1.5 Plan and Deliver Personal Training**

Section 2: Functional Anatomy

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should demonstrate **knowledge** and **understanding** of:

Integrate Exercise Science (as identified at the Knowledge doc) to the design of the programme	a. Apply the knowledge of the musculoskeletal system to programme design	• Musculoskeletal structure
		  ○ Components
		  ○ Muscles, bones, joints, ligaments and tendons
		  ○ Function
		  ○ Types: Muscles, bones and joints
		  ○ Locations
		  ○ Action
		  ○ Directional and anatomical terminology
		• Muscle physiology
		  ○ Structure
		  ○ Contraction
		  ○ Muscle Groups
		• Postural abnormalities
		• Physiological adaptations to exercise
		• Measuring exercise response
		• Exercise risks
			2.1 Functional Kinesiology/Biomechanics
			2.2 Muscles

	b. Apply the knowledge of the biomechanical concepts as they relate to movement and exercise to programme design	• Biomechanical concepts
		  ○ Centre of gravity
		  ○ Stability,
		  ○ Momentum,
		  ○ Inertia
		  ○ Alignment
		  ○ Levers
		  ○ Torque,
		  ○ Base of support
		  ○ Balance
		• Resistance training equipment
		  ○ Resistance
			2.1 Functional Kinesiology/Biomechanics
			2.2 Muscles

		○ Force ○ Axis ○ Variable resistance • Exercise intensity • Exercise safety and contraindications	

Section 3: Physiology

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should demonstrate **knowledge** and **understanding** of:

Integrate Exercise Science (as identified at the Knowledge doc) to the design of the programme	a. Apply the knowledge of related physiological concepts to programme design	• Nervous and Endocrine System
		• Overtraining
		• Effects of various environmental conditions on exercise response
		  ○ Temperature
		  ○ Altitude
		  ○ Pollution
		• Effects of various individual factors on exercise response
		  ○ Hydration
		  ○ Performance enhancing substances
		  ○ Alcohol, smoking and recreational drugs
		  ○ Gender
		  ○ Age
		  ○ Genetic factors
		  ○ Body type
		  ○ Pregnancy
			3.1 Energy Systems
			3.3 Nervous & Endocrine System

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should demonstrate **knowledge** and **understanding** of:

Integrate Exercise Science to the design of the programme	b. Apply the knowledge of the cardio-respiratory system and energy systems to programme design	• Structure and function of the cardio-respiratory system
		• Cardiac cycle
		• Transport and gaseous exchange
		• Aerobic and anaerobic systems
		  ○ Processes, function and metabolic products
		• Heart rate response to exercise
		  ○ Long term and short term
		  ○ Measurement of heart rate response
		• Oxygen demands of different activities
		• Physiological adaptations to exercise
			3.2 Cardiorespiratory System

Section 4: Nutrition

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should demonstrate **knowledge** and **understanding** of:
Inform clients of benefits of a healthy lifestyle	Provide participants with accurate information on principles of nutrition and weight management	• Dietary role of and common dietary sources. • Balance between saturated and unsaturated fatty acid and effects on health. • Right intake of essential fatty acids and effects on health. • Role of vitamins and minerals • Role and desirable levels of total cholesterol, HDLs and LDLs • Examples of the four basic food groups, vitamins and minerals. • Components of the energy balance • Methods to estimate calories requirements • Healthy eating patterns; • Dietary intake influences on health; • Lifestyle advice, to include use of tobacco, alcohol, caffeine (current government guidelines); • Energy needs for different activities/sports/fitness plans; • Role of carbohydrate, fat and protein as fuels for aerobic and anaerobic exercise; • Safe and effective advices about eating pattern for weight (fat) loss/gain; energy balance; appropriate 'weight' loss goals; • Appropriate referral/advice organisations • Analysis of current weight-loss fads and popular diets	**Section 4: Nutrition**

Section 5: Psycho-social aspects of health & fitness

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should demonstrate **knowledge** and **understanding** of:

Identify participants incentives and barriers to participate in exercise	a. Recognise factors that encourage clients to participate in exercise and barriers to exercise	• Theoretical models
		• Influencing factors
		  ○ Category of client
		  ○ Stage of fitness
		  ○ Personal
		  ○ Programme
		  ○ Environmental
		  ○ Social
			Section 5: Psycho-social aspects of health & fitness

Develop and apply strategies to motivate participants to join and adhere to an exercise programme	a. Define own role as a personal trainer and client role and responsibilities with client and those of other staff and professionals involved in the programme	• Codes of practice, ethics etc.
		• Client understanding of own responsibilities
		• Client understanding of instructor's role and limitations in providing assistance
		• Developing client instructor relationship
		• Progressing and adapting relationship according to needs of clients
		  ○ Level of assistance
		  ○ Instructor personal qualities
			Section 5: Psycho-social aspects of health & fitness
			1.1 Professionalism, Code of Practice/Ethics/National Standards and Guidelines
			1.3 Communication

	b. Integrate appropriate motivational strategies to encourage long term adherence to the programme and to positive lifestyle practices	• Motivational theories
		  ○ Arousal theories
		• Behavioural Modification techniques
		  ○ Stages of Change
		  ○ Precontemplation
		  ○ Contemplation
		  ○ Preparation
		  ○ Action
		  ○ Maintenance
		• Needs of different category of client
		  ○ Experienced or inexperienced
		  ○ Active or inactive
		  ○ Stages of fitness
			Section 5: Psycho-social aspects of health & fitness
			1.3 Communication

		○ Individual differences • Utilising techniques ○ Goal Setting ○ Cost benefit analysis ○ Rewards ○ Focusing ○ Support systems ○ Contingency plan or alternative activities ○ Recycle plan for relapsers ○ Lifestyle changes ○ Self recognition of own barriers	**1.3 Communication**
	c. Match instructor qualities to client needs	• Instructor – Participant relationship • Task oriented instructional style	**1.3 Communication**
	d. Provide participants with accurate information on stress management	• Stress management techniques ○ Exercise • Different modes ○ Progressive relaxation ○ Autogenic training ○ Meditation	**Section 5: Psycho-social aspects of health & fitness** **1.3 Communication**

Section 6: Health & Fitness Assessment: Collecting and Analysing Information

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should demonstrate **knowledge** and **understanding** of:

Integrate the principles of training	a. Apply the knowledge of principles of training and components of health related fitness to the design of an individual programme to meet client's abilities, needs, lifestyle and exercise preferences.	• Principles of Training
		  ○ Frequency, intensity, time, type
		  ○ Overload, progression, adaptation, recovery, specificity, reversibility
		  ○ Session phases
		  ○ Resources
		  ○ Scheduling
		• Programme types
		• Exercise modes to suit client needs, fitness levels abilities, likes, available time and available resources
		• Incorporating the development of Cardiovascular fitness
		  ○ Muscular strength
		  ○ Muscular endurance
		  ○ Flexibility
		  ○ Body composition
		• Determining and varying modality and intensity of exercise
		• Develop integrated activity plan and Identify resources
		• Allocating resources & aligning training
			6.1 Components of Fitness

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should demonstrate **knowledge** and **understanding** of:
Collect information about the client	a. Identify the information which is to be collected	• Client personal goals and expectations • Lifestyle • Medical, health and exercise history • Attitude and motivation • Exercise preferences • Barriers to exercise • Stage of change/readiness • Level of fitness	**6.2 Collecting and Analysing Information**
	b. Educate client on purpose of client appraisal	• Health and Fitness status • Referral • Safety • Programme design • Goals • Measure progress	**1.3 Communication**
	c. Advise client of correct procedures, protocols and risks prior to commencing physical assessment	• Assessment protocols • Health concerns • Risks • Safety • Dress	**6.2 Collecting and Analysing Information**
	d. Obtain Informed consent	• Source and administer standard approved informed consent documents • Design basic informed consent documents	**6.2 Collecting and Analysing Information**
	e. Conduct pre- fitness assessment screening to assess if client referral is recommended	• Basic Guidelines for referral	**6.2 Collecting and Analysing Information**

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should demonstrate **knowledge** and **understanding** of:
Collect information about the client	f. Seek and receive information from other health and medical professionals concerning the client when required	• Doctor/medical Practitioner • Physiotherapist • Chiropractor • Occupational Therapist • Osteopath • Podiatrist • Nutritionist • Sports Scientist	**6.2 Collecting and Analysing Information**

	g. Collect information about the client using approved methods and techniques	• Interview
		• Observation
		• Design health and physical activity appraisals
		• Administer health and physical activity appraisals/ questionnaire
		• Studying written information e.g. PAR-Q Questionnaire
		• Documentation from other health care professionals
		• Fitness assessment
		  ○ Flexibility
		  ○ Strength
		  ○ Local Muscular endurance
		  ○ Aerobic capacity
		  ○ Body composition
		  ○ Posture
			6.2 Collecting and Analysing Information

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should demonstrate **knowledge** and **understanding** of:

Collect information about the client	h. Select assessments appropriate to the category of client	• Experienced or inexperienced
		• Stage of fitness
		  ○ Beginner
		  ○ Intermediate
		  ○ Advanced
		• Medical and injury status
			6.2 Collecting and Analysing Information

	i. Select assessments appropriate to the Assessment conditions	• With/without equipment
		• Individual versus group assessment
		• Factors affecting assessment validity, reliability and objectivity
		  ○ Surface
		  ○ Temperature and weather conditions
		  ○ Personnel conducting assessment
		  ○ Health and personal status of the client
			6.2 Collecting and Analysing Information

	j. Conduct basic postural analysis on client	• Static • Dynamic	**6.2 Collecting and Analysing Information**

	k. Supervise client physical assessment in a safe and effective manner	• Monitor
		  ○ Technique
		  ○ Intensity
		  ○ Safety
		• Correct and reinforce
		• Reassure and relax
		• Assessment protocols
			6.2 Collecting and Analysing Information
			1.3 Communication

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should demonstrate **knowledge** and **understanding** of:
Collect information about the client	l. Demonstrate effective communication and interpersonal skills when greeting client and during the collection of information	• Courtesy • Interview technique • Use open, closed and probing questions • Listening and • Motivate the client • Sensitivity • Discretion • Empathise with the client • Gain the confidence of the client • Non-judgemental manner • Build up a rapport with the client • Respect the individuality of the client • Self-evaluation	**6.2 Collecting and Analysing Information** **1.3 Communication**
Record information	a. Record information in an effective manner	• Accuracy • Interview data • Questionnaire results • Fitness assessment results	**6.2 Collecting and Analysing Information**
	b. Apply basic IT /admin skills to filing and maintaining records	• Accuracy • Facilitate analysis • Maintain clients confidentiality • In a standard format to be used and understood by other professionals • In language understood by other professionals • Use of different IT packages • Filing systems	**6.2 Collecting and Analysing Information**

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should demonstrate **knowledge** and **understanding** of:
Analyse information and determine risk factors	a. Interpret all recorded data using accepted criteria	• All data gathered • Using standard criteria • Norms	**6.2 Collecting and Analysing Information**
	b. Prioritise key needs and responses	• According to client health status • According to client fitness status • According to clients expectations	**6.2 Collecting and Analysing Information**
	c. Identify and prioritise risk factors	• Medical, physical and psychological • Injury status • Fitness levels • Factors that might affect clients ability to participate in programme	**6.2 Collecting and Analysing Information**
	d. Review and confirm data with client	• Clarify data • Utilising communication and Interpersonal Skills	**1.3 Communication**
	e. Develop a summary profile of client to assist in the design of a programme to meet clients needs	• Collate and categorise data	**6.2 Collecting and Analysing Information**
Inform client of analysis and discuss and agree the outcomes	a. Present results to client in an effective manner	• Language and terms understood by client • Simplify technical information • Communication and Interpersonal Skills	**1.3 Communication**

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should demonstrate **knowledge** and **understanding** of:

Inform client of analysis and discuss and agree the outcomes	b. Discuss the results	• In relation to
		  ○ Standard norms
		  ○ Client lifestyle practices
		  ○ Potential implications
			1.3 Communication

	c. Educate clients on the benefits of a fitness programme and positive lifestyle practices	• Physical, mental, social and health • In relation to current client practices and status • Positive lifestyle practices • Behaviour practices • Respond to client's queries	**1.3 Communication**
Identify factors and where necessary refer the client to a more appropriate professional	a. Understand and apply guidelines for referral	• Industry guidelines • Facility guidelines • National guidelines	**6.2 Collecting and Analysing Information**
	b. Refer client to appropriate professional	• Standard Criteria for referral • Professionals for Referral	**6.2 Collecting and Analysing Information**

Section 7: Training Adaptation & Exercise Planning & Programming

WORKPLACE COMPETENCY Learners should be able to demonstrate the following competencies	**SKILLS** Learners should be able to demonstrate the following skills	**RANGE** Learners should be able to cover the following range	**UNDERPINNING KNOWLEDGE** Learners should demonstrate **knowledge** and **understanding** of:
Integrate the Science related to the training process to the programme design	Apply the knowledge of the training adaptations to programme design	• Principles of adaptation • The continuum in neuromuscular adaptation • Muscular strength & endurance • Increased endurance capacity • Repetition ranges for strength, power, endurance and muscle hypertrophy • Range of heart rate training zones • Interval, fartlek principles and practical application • Principles of training • Effects of health related physical activities • Principles of periodized training programmes • Use of short, medium and long-term goals. (micro, meso and macro-cycles) • Use of volume vs. intensity through the periodization stages • Methods for range of motion (flexibility) training. • Current recognized International guidelines. • Importance of adequate rest phases between training loads • Signs and symptoms of overtraining • Principles FITT for health and skill related components of fitness	**7.1 Training Adaptation** **7.2 Exercise Planning & Programming**