Principles of health and fitness

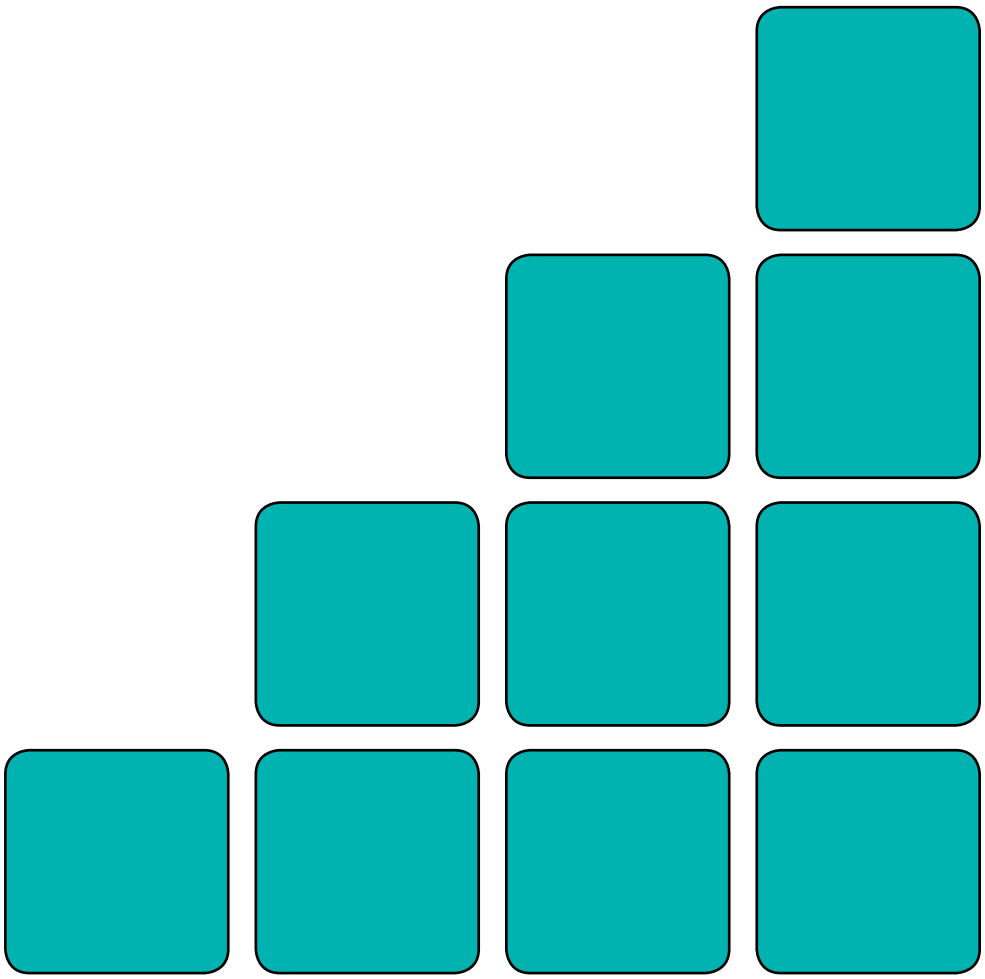
USP42

R/506/7222

Learner name:

Learner number:

VRQ



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Statement of unit achievement

By signing this statement of unit achievement you are confirming that all learning outcomes, assessment criteria and range statements have been achieved under specified conditions and that the evidence gathered is authentic.

This statement of unit achievement table must be completed prior to claiming certification.

Unit code	Date achieved	Learner signature	Assessor initials	IV signature (if sampled)

Assessor tracking table

All assessors using this Record of Assessment book must complete this table. This is required for verification purposes.

Assessor name	Assessor signature	Assessors initials	Assessor number (optional)

USP42

Principles of health and fitness

The aim of this unit is to develop your knowledge and understanding of the principles of health and fitness. This includes the benefits of leading a healthy lifestyle, the short and long-term effects of exercise on the body, components of fitness and principles of training. In addition you will cover the key fundamentals of healthy eating, hydration and professional boundaries when offering nutritional advice.

Level

2

Credit value

3

GLH

20

Observation(s)

0

External paper(s)

0

Principles of health and fitness

Learning outcomes

On completion of this unit you will:

1. Understand the benefits of an active, healthy lifestyle
2. Understand the effects of exercise on the body
3. Know the components of fitness
4. Know the principles of training
5. Understand the importance of healthy eating

Evidence requirements

1. *Knowledge outcomes*
   There must be evidence that you possess all the knowledge and understanding listed in the Knowledge section of this unit. In most cases this can be done by professional discussion and/or oral questioning. Other methods, such as projects, assignments and/or reflective accounts may also be used.
2. *Tutor/Assessor guidance*
   Your tutor/assessor **must** adhere to the **'Assessment Guidance and Evidence Requirements'** for this unit. This can be found under documents on the relevant qualification page at www.vtct.org.uk.

   You will be guided by your tutor/assessor on how to achieve learning outcomes in this unit. All outcomes must be achieved.
3. *External paper*
   There is no external paper requirement for this unit.

Developing knowledge

Achieving knowledge outcomes

You will be guided by your tutor and assessor on the evidence that needs to be produced. Your knowledge and understanding will be assessed using the assessment methods listed below*:

- Projects
- Observed work
- Witness statements
- Audio-visual media
- Evidence of prior learning or attainment
- Written questions
- Oral questions
- Assignments
- Case studies
- Professional discussion

Where applicable your assessor will integrate knowledge outcomes into practical observations through professional discussion and/or oral questioning.

When a criterion has been orally questioned and achieved, your assessor will record this evidence in written form or by other appropriate means. There is no need for you to produce additional evidence as this criterion has already been achieved.

Some knowledge and understanding outcomes may require you to show that you know and understand how to do something. If you have practical evidence from your own work that meets knowledge criteria, then there is no requirement for you to be questioned again on the same topic.

Tutor/assessor guidance

Your tutor/assessor **must** adhere to the **'Assessment Guidance and Evidence Requirements'** for this unit. This document will give guidance for the tutor/assessor on breadth and depth of content that must be covered in this unit. This can be found under the documents tab on the relevant qualification page at www.vtct.org.uk.

**This is not an exhaustive list.*

Knowledge

Learning outcome 1

Understand the benefits of an active, healthy lifestyle

You can:	Portfolio reference
a. Explain what constitutes an active, healthy lifestyle	
b. Describe the benefits of leading an active, healthy lifestyle	

Learning outcome 2

Understand the effects of exercise on the body

You can:	Portfolio reference
a. Describe the short and long term effects of exercise on the body systems	
b. Describe the blood pooling effect following exercise	
c. Identify the types of activities likely to cause delayed onset of muscle soreness	

Learning outcome 3

Know the components of fitness

You can:	Portfolio reference
a. Define the health related components of fitness	
b. Define the skills related components of fitness	
c. Identify the factors the affect health and skill related fitness	

Learning outcome 4

Know the principles of training

You can:	Portfolio reference
a. Identify the principles of training	
b. Describe the physiological implications of each training principle	
c. Describe signs and symptoms that may indicate overtraining	

Learning outcome 5

Understand the importance of healthy eating

You can:	Portfolio reference
a. Explain the dietary role of key macro nutrients	
b. Explain the dietary role of key micro nutrients	
c. Identify common dietary sources for key macro and micro nutrients	
d. Explain the importance of adequate hydration	
e. Explain current healthy eating guidelines	
f. Explain the importance of healthy eating in relation to growth, repair and injury	
g. Explain professional boundaries when offering healthy eating advice	

Unit content

This section provides guidance on the recommended knowledge and skills required to enable you to achieve each of the learning outcomes in this unit. Your tutor/assessor will ensure you have the opportunity to cover all of the unit content.

Learning outcome 1: Understand the benefits of an active, healthy lifestyle

Active, healthy lifestyle: Regular physical activity and exercise, balanced diet, adequate sleep, adequate rest and relaxation, no smoking or drugs, minimise stress.

Benefits: Reduced risk of early mortality, reduced morbidity (coronary heart disease, diabetes), improved mental health and psychological wellbeing (anxiety, depression, stress, mood), cardio-protective mechanisms, weight management and body composition, improved posture, reduced risk of injury, improved joint stability, increased bone density, improved ability to perform activities of daily living.

Learning outcome 2: Understand the effects of exercise on the body

Short-term effects of exercise: Skeletal system (increased joint temperature and mobility), muscular system (increased muscle temperature and elasticity, muscular contraction), cardiovascular system (increased heart rate, increased stroke volume, increased cardiac output, increased blood flow, increased blood pressure), respiratory system (increased breathing rate, increased depth of breathing, increased gaseous exchange).

Long-term effects of exercise: Skeletal system (increased bone density and strength, increased ligament thickness and strength), muscular system (muscular hypertrophy, increased muscular strength, increased tendon thickness and strength, increased tolerance to lactic acid, increased myoglobin, increased mitochondria, increased glycogen storage, increased capillarisation), cardiovascular system (cardiac hypertrophy, increased stroke volume, increased cardiac output, reduced resting heart rate, reduced resting blood pressure, improved aerobic capacity), respiratory system (increased surface area of alveoli, increased oxygen diffusion rate, increased minute ventilation, increased efficiency of respiratory muscles, increased resting tidal volume, reduced resting respiratory rate).

Blood pooling: In the lower extremities, causes (rapid cessation of exercise, effect of gravity), venous return (skeletal muscle pump, non-return valves), associated risks (dizziness, fainting), prevention of blood pooling through progressive cool down.

Delayed Onset Muscle Soreness: Structural muscle damage (microscopic fibre tears, muscle cell leakage), effects of eccentric muscle contractions, causal activities (plyometrics, eccentric resistance training, isometric training, downhill running, higher than normal exercise intensity).

Learning outcome 3: Know the components of fitness

Health-related components: Cardiovascular endurance, muscular endurance, muscular strength, flexibility, body composition.

Skill-related components: Speed, muscular power, agility, balance, co-ordination, reaction time.

Factors: Genetics, gender, age, body type, training status, lifestyle factors (nutrition, smoking, alcohol, drugs, rest, stress).

Learning outcome 4: Know the principles of training

Principles of training: Specificity, progression, overload, reversibility, adaptability, individuality, recovery, FITT (Frequency, Intensity, Time, Type).

Physiological implications: Of specificity, progression, overload, reversibility, adaptability, individuality.

Overtraining: Lack of training gains, loss of enjoyment or enthusiasm for training, deterioration in performance, burnout (increased muscle soreness and fatigue), more frequent illness (depleted immune system), increased injuries, decreased libido, decreased appetite, mood disturbance (decreased self-esteem, increased perception of mental fatigue), insomnia, compulsive need to exercise.

Learning outcome 5: Understand the importance of healthy eating

Role of macro nutrients: Carbohydrate (energy source, energy reserve, provide fibre), fats (energy source, energy storage, insulation, protection of vital organs, cell membrane, hormone production), protein (structural growth and repair, transportation of substances, function as hormones, act as enzymes).

Role of micro nutrients: Fat-soluble vitamins (A,D,E,K), water-soluble vitamins (B,C), roles of vitamins (energy metabolism, protein synthesis, glycogen synthesis, blood clotting, red blood cell formation, aid growth, maintenance of teeth and bones, aids vision), minerals (calcium, phosphorous, iron, sodium, potassium, zinc), roles of minerals (bone growth, teeth growth, energy production, enzyme function, nerve and muscle function, water balance, blood clotting, oxygen transport in red blood cells).

Common dietary sources: Simple carbohydrates (sugar, sweets, chocolate, fruit), complex carbohydrates (beans, bread, pasta, potatoes, rice, corn), fats (meat, dairy products, processed foods, cakes, biscuits, pies, pastries, oils), protein (meat, fish, eggs, dairy products, grains, beans, leafy vegetables), vitamins (vegetables, fruit, milk, fish, eggs), minerals (milk, nuts, vegetables, meats), dietary sources for specific vitamins and minerals.

Importance of adequate hydration: Hydration guidelines (type, quantity, timing), importance (maintain body balance/homeostasis, maintain body processes and functions, maintain physical and mental performance).

Current healthy eating guidelines: Principles of a healthy balanced diet, reducing processed foods, reducing sugar intake, reducing salt intake, Reference Intake, Food Standards Agency (FSA), Eat Well Plate, Government recommendations for fruit and vegetable daily intake.

Importance of healthy eating: Growth (optimise growth during childhood and adolescence, pregnancy), repair (provide nutrients for structural repair, optimise rate of repair), injury (weight management during period of reduced activity, optimise rate of recovery).

Professional boundaries: Healthy eating advice offered to apparently healthy individuals, advice based on current guidelines, advice should be informative and non-judgemental, referral to nutrition professional for specialist nutrition advice or for those with medical conditions.