

# iUSP174 – Principles of health and fitness

URN – H/617/5676

**Guided Learning Hours: 20**

Learning outcome	Assessment criteria	Taught content to include
LO1 Understand the benefits of an active and healthy lifestyle	1.1. Explain what constitutes an active, healthy lifestyle	<ul style="list-style-type: none"> <li>• Good nutrition</li> <li>• Adequate hydration</li> <li>• Avoid smoking and drinking</li> <li>• Regular sleep pattern</li> <li>• Regular exercise</li> <li>• Positive mental state</li> </ul>
	1.2. Describe the benefits of leading an active, healthy lifestyle	<ul style="list-style-type: none"> <li>• Increased mental acuity</li> <li>• Feeling of well-being</li> <li>• Increased productivity</li> <li>• Greater energy levels</li> <li>• Increased resistance to disease</li> <li>• Positive outlook</li> <li>• Decreased stress levels</li> <li>• Greater ability to cope</li> <li>• Increase in motivation</li> </ul>
LO2 Understand the effects of exercise on the body	2.1. Describe the short and long term effects of exercise on the body systems	<ul style="list-style-type: none"> <li>• Short term effects               <ul style="list-style-type: none"> <li>- Musculoskeletal system                   <ul style="list-style-type: none"> <li>▪ Increased circulatory flow</li> <li>▪ Increased muscle pliability</li> <li>▪ Greater range of motion</li> <li>▪ Micro-tearing to muscle</li> </ul> </li> <li>- Energy systems                   <ul style="list-style-type: none"> <li>▪ Phosphocreatine</li> <li>▪ Lactic acid</li> </ul> </li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>▪ Aerobic</li> <li>▪ Energy continuum</li> <li>▪ Differing energy requirements of specific sports and exercise activities</li> <li>- Cardiovascular system <ul style="list-style-type: none"> <li>▪ Heart rate</li> <li>▪ Cardiac output</li> <li>▪ Blood pressure</li> <li>▪ Vasoconstriction</li> <li>▪ Vasodilation</li> <li>▪ Blood distribution</li> </ul> </li> <li>- Respiratory system <ul style="list-style-type: none"> <li>▪ Elevated breathing rate</li> <li>▪ Increased tidal volume</li> </ul> </li> <li>• Long term effects <ul style="list-style-type: none"> <li>- Muscular system <ul style="list-style-type: none"> <li>▪ Hypertrophy</li> <li>▪ Increase in muscular strength</li> <li>▪ Increase in tendon strength</li> <li>▪ Elevated myoglobin storage</li> <li>▪ Increased number of mitochondria</li> <li>▪ Increased storage of glycogen</li> </ul> </li> <li>- Skeletal system <ul style="list-style-type: none"> <li>▪ Bone calcium increase</li> <li>▪ Increase in synovial fluid production</li> <li>▪ Hyaline cartilage thickness increased</li> <li>▪ Ligamentous adaptation</li> </ul> </li> <li>- Respiratory system <ul style="list-style-type: none"> <li>▪ Increased vital capacity</li> <li>▪ Increased ventilation</li> <li>▪ Increased strength of respiratory muscles</li> <li>▪ Elevated oxygen diffusion rate</li> </ul> </li> <li>- Energy systems <ul style="list-style-type: none"> <li>▪ Increased aerobic and anaerobic enzymes</li> <li>▪ Elevation of fat-usage as an energy source</li> </ul> </li> </ul> </li> </ul>
	2.2. Describe the blood pooling effect following exercise	<ul style="list-style-type: none"> <li>• Consequences of blood pooling in the veins</li> <li>• How to ensure adequate circulation reaches skeletal muscles, heart and brain</li> <li>• Abrupt cessation of exercise</li> </ul>

		<ul style="list-style-type: none"> <li>• The role of cooling down after exercise</li> </ul>
	2.3. Identify the types of activities likely to cause delayed onset of muscle soreness	<ul style="list-style-type: none"> <li>• Eccentric muscular effort</li> <li>• Ongoing research to determine exact cause</li> <li>• Changes to exercise programme or unusual exertion</li> </ul>
LO3 Know the components of fitness	3.1. Define the health related components of fitness	<ul style="list-style-type: none"> <li>• Aerobic endurance</li> <li>• Muscular endurance</li> <li>• Body composition</li> <li>• Flexibility</li> <li>• Speed</li> <li>• Strength</li> </ul>
	3.2. Define the skills related components of fitness	<ul style="list-style-type: none"> <li>• Agility</li> <li>• Balance</li> <li>• Co-ordination</li> <li>• Power</li> <li>• Reaction time</li> </ul>
	3.3. Identify the factors that affect health and skill related fitness	<ul style="list-style-type: none"> <li>• Age</li> <li>• Smoking</li> <li>• Alcohol</li> <li>• Diet</li> <li>• Stress</li> <li>• Drugs</li> <li>• Demands of work</li> <li>• Sleep</li> </ul>
LO4 Know the principles of training	4.1. Identify the principles of training	<ul style="list-style-type: none"> <li>• FITT principles <ul style="list-style-type: none"> <li>- Frequency</li> <li>- Intensity</li> <li>- Type</li> <li>- Time specificity</li> </ul> </li> <li>• Progressive overload</li> <li>• Recovery</li> <li>• Adaptation</li> <li>• Reversibility</li> <li>• Individuality</li> </ul>

	4.2. Describe the physiological implications of each training principle	<ul style="list-style-type: none"> <li>• Specificity <ul style="list-style-type: none"> <li>- Training bespoke for a particular activity</li> </ul> </li> <li>• Overload <ul style="list-style-type: none"> <li>- Increased frequency</li> <li>- Increased intensity</li> <li>- Increased duration</li> </ul> </li> <li>• Recovery <ul style="list-style-type: none"> <li>- Adequate recuperation</li> </ul> </li> <li>• Adaptation <ul style="list-style-type: none"> <li>- Adjustment to level of activity</li> </ul> </li> <li>• Reversibility <ul style="list-style-type: none"> <li>- De-training occurs if training is stopped or is inadequate</li> </ul> </li> <li>• Individuality <ul style="list-style-type: none"> <li>- Genetic predisposition and individual capabilities</li> </ul> </li> </ul>
	4.3. Describe signs and symptoms that may indicate overtraining	<ul style="list-style-type: none"> <li>• Cessation of progress</li> <li>• Decline in strength and fitness</li> <li>• Exercise addiction</li> <li>• Elevated resting heart rate</li> <li>• Muscle soreness</li> <li>• Lingering fatigue</li> <li>• Susceptibility to infections</li> <li>• Prone to injuries</li> <li>• Irritability</li> <li>• Depression</li> <li>• Lacking motivation</li> <li>• Irregular or absent menstruation</li> <li>• Weight loss</li> <li>• Constipation or diarrhoea</li> <li>• Insomnia</li> </ul>
LO5 Understand the importance of healthy eating	5.1. Explain the dietary role of key macro nutrients	<ul style="list-style-type: none"> <li>• The role of minerals in the diet to include: <ul style="list-style-type: none"> <li>- Define mineral/macro mineral/micro element</li> <li>- Metabolism of minerals</li> <li>- Details of sources, functions, signs of deficiencies and excesses</li> </ul> </li> <li>• Dangers arising from deficiency of the macro minerals and micro minerals</li> </ul>

	5.2. Explain the dietary role of key micro nutrients	<ul style="list-style-type: none"> <li>• Macrominerals <ul style="list-style-type: none"> <li>- Calcium</li> <li>- Magnesium</li> <li>- Phosphorus</li> <li>- Sodium</li> <li>- Potassium</li> </ul> </li> <li>• Microminerals <ul style="list-style-type: none"> <li>- Iron</li> <li>- Chromium</li> <li>- Zinc</li> <li>- Copper</li> <li>- Selenium</li> <li>- Sulphur</li> <li>- Manganese</li> <li>- Iodine</li> </ul> </li> </ul>
	5.3. Identify common dietary sources for key macronutrients and micronutrients	<ul style="list-style-type: none"> <li>• Macronutrients <ul style="list-style-type: none"> <li>- Constitutes the majority of an individual's diet</li> <li>- Carbohydrates</li> <li>- Fats</li> <li>- Proteins</li> <li>- Macrominerals</li> <li>- Water</li> </ul> </li> <li>• Micronutrients <ul style="list-style-type: none"> <li>- Foods that the body only requires in small amounts</li> <li>- Vitamins</li> <li>- Trace elements</li> </ul> </li> </ul>
	5.4. Explain the importance of adequate hydration	<ul style="list-style-type: none"> <li>• The role of water in the diet to include: <ul style="list-style-type: none"> <li>- Hydration</li> <li>- Forms 95% of plasma</li> <li>- Bathes the tissues</li> </ul> </li> <li>• The effects of dehydration to include: <ul style="list-style-type: none"> <li>- Thirst</li> <li>- Headaches</li> <li>- Toxicity and the strain placed on other organs, e.g., skin and liver</li> </ul> </li> </ul>
	5.5. Explain current healthy eating guidelines	<ul style="list-style-type: none"> <li>• To include portions per day of: <ul style="list-style-type: none"> <li>- Fruit and vegetables</li> <li>- Grain and potatoes</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>- Calcium-rich foods</li> <li>- Protein-rich foods</li> <li>- Healthy fats</li> <li>• Nutritional principles and key features of national food model/guide</li> <li>• Definition of portion sizes</li> <li>• Guidelines for healthy eating</li> </ul>
	5.6. Explain the importance of healthy eating in relation to growth, repair and injury	<ul style="list-style-type: none"> <li>• Adequate protein intake and balance of amino acids</li> <li>• Adequate hydration</li> <li>• Fat intake</li> <li>• Role of minerals, vitamins and carbohydrates</li> <li>• Supplements</li> <li>• Inflammation</li> <li>• Immunity <ul style="list-style-type: none"> <li>- Resistance</li> <li>- Susceptibility</li> </ul> </li> </ul>
	5.7. Explain professional boundaries when offering healthy eating advice	<ul style="list-style-type: none"> <li>• Referral to dietician</li> <li>• Recognise limitations</li> <li>• Acknowledge professional parameters</li> <li>• Contra-indications</li> <li>• Medical history and medication</li> <li>• Code of practice</li> <li>• Legal implication</li> </ul>

Assessment	
Portfolio of evidence	Containing an assignment

**Guide to taught content**

The content contained within the unit specification is not prescriptive or exhaustive but is intended to provide helpful guidance to teachers and learners with the key areas that will be covered within the unit, and, relating to the kinds of evidence that should be provided for each assessment objective specific to the unit learning outcomes.

**Document History**

Version	Issue Date	Changes	Role
v1	13/08/2019	First published	Qualifications and Regulation Co-ordinator