

# Scheme of work

For each VTCT (ITEC) qualification, the lecturer/centre must complete a scheme of work for each unit indicating how the Lecturer is planning to cover the unit content throughout the course. Set out the planned sessions in terms of learning outcomes to be achieved. These should match those stated within the VTCT (ITEC) unit specification. Include all units of each course offered. Hours should meet the minimum guided learning hours listed within the unit specification.

**Unit title:** iUSP174 – Principles of health and fitness

**Total contact tuition hours proposed:** 20

**Lecturer(s) responsible:**

Learning objectives	Lecture content	Suggested resources	Approx. hours
Introductory Session	<ul style="list-style-type: none"> <li>College rules and regulations</li> <li>College mission statement</li> <li>ITEC rules and regulations</li> <li>Health &amp; Safety</li> <li>Timetable</li> <li>Dates – holidays etc.</li> <li>Syllabus</li> <li>Recommended books</li> <li>Uniform</li> </ul>	<ul style="list-style-type: none"> <li>Lecture</li> <li>Q&amp;A</li> <li>Using all the documents listed to ensure the students understand the college expectations and their commitment to the course</li> </ul>	
<b>1. Understand the benefits of an active and healthy lifestyle</b>			
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>	<ul style="list-style-type: none"> <li>Whiteboard</li> <li>Learning Apps</li> <li>Books</li> <li>Internet</li> <li>Handouts</li> <li>Lecture</li> <li>Q&amp;A</li> <li>Homework</li> <li>Test</li> </ul>	4

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>		
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2. Understand the effects of exercise on the body			
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> <li>▪ Aerobic</li> <li>▪ Energy continuum</li> <li>▪ Differing energy requirements of specific sports and exercise activities</li> </ul> </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> </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> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Whiteboard</li> <li>• Learning Apps</li> <li>• Books</li> <li>• Internet</li> <li>• Handouts</li> <li>• Lecture</li> <li>• Q&amp;A</li> <li>• Homework</li> <li>• Test</li> </ul>	4

	<ul style="list-style-type: none"> <li>▪ Increased storage of glycogen</li> </ul> <ul style="list-style-type: none"> <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>		
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> <li>• The role of cooling down after exercise</li> </ul>		
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>		

3. Know the components of fitness			
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>	<ul style="list-style-type: none"> <li>• Whiteboard</li> <li>• Learning Apps</li> <li>• Books</li> <li>• Internet</li> <li>• Handouts</li> <li>• Lecture</li> <li>• Q&amp;A</li> <li>• Homework</li> <li>• Test</li> </ul>	4
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>		
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> </ul>		

	<ul style="list-style-type: none"> <li>• Stress</li> <li>• Drugs</li> <li>• Demands of work</li> <li>• Sleep</li> </ul>		
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4. Know the principles of training			
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>	<ul style="list-style-type: none"> <li>• Whiteboard</li> <li>• Learning Apps</li> <li>• Books</li> <li>• Internet</li> <li>• Handouts</li> <li>• Lecture</li> <li>• Q&amp;A</li> <li>• Homework</li> <li>• Test</li> </ul>	4
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>		
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> </ul>		

	<ul style="list-style-type: none"> <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>		
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5. Understand the importance of healthy eating			
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>	<ul style="list-style-type: none"> <li>• Whiteboard</li> <li>• Learning Apps</li> <li>• Books</li> <li>• Internet</li> <li>• Handouts</li> <li>• Lecture</li> <li>• Q&amp;A</li> <li>• Homework</li> <li>• Test</li> </ul>	4
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>		
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>		

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>		
Explain current healthy eating guidelines	<ul style="list-style-type: none"> <li>• To include portions per day of:</li> <li>• Fruit and vegetables</li> <li>• Grain and potatoes</li> <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>		
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>		
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>		

Document History

Version	Issue Date	Changes	Role
v1	27/09/2019	First published	Qualifications Administrator