

Year 12 ~ Curriculum Map for PE (Cambridge Technical in Sport and Physical Activity Level 3 Extended Certificate)

	Term 1	Term 2		Term 3	Term 4	Term 5	Term 6	
	Topic(s): Unit 1 Body Systems & The effects of physical activity:			Topic(s): Unit 5 Performance Analysis in Sport & exercise		Topic(s): Unit 2 Sports Coaching & Leadership		
'Big idea(s)' / fundamental concepts	LO1: Understand the skeletal system in relation to exercise and physical activity LO2: Understand the muscular system in relation to exercise and physical activity LO3: Understand the cardiovascular system in relation to exercise and physical activity	LO3: Understand the respiratory system in relation to exercise and physical activity LO4: Understand the different energy systems in relation to exercise and physical activity Exam preparation	Public exam on Unit 1 – Usually in 2 nd week in January	LO3 & LO4: Be able to analyse performance & Be able to give feedback on sports performance	LO1: Understanding Performance Profiling LO2: Be able to carry out performance profiling	LO1: Know the roles and responsibilities of sports coaches and activity leaders LO2: Understand principles which underpin coaching and leading LO3: Be able to use methods to improve skills, techniques and tactics in sport	LO4: Be able to plan sports and activity sessions LO5: Be able to prepare sports and activity environments LO6: Be able to deliver sports and activity sessions LO7: Be able to review sports and activity sessions	
Knowledge to be learnt	<p>LO1: Skeletal System</p> <ul style="list-style-type: none"> Axial & Appendicular skeletons Functions of the skeleton and types of bone. Classification of joints Types of synovial joints Structures & Functions of synovial joints Joint movements The impact of physical activity, training & lifestyle on the skeletal system <p>LO2: Muscular System</p> <ul style="list-style-type: none"> Main muscles acting at synovial joints Types of muscle function Types of muscle contraction Structure and function of muscle fibre types & link between mix of fibres and performance The impact of physical activity, training & lifestyle on the muscular system <p>LO3: Cardiovascular System</p> <ul style="list-style-type: none"> The structures of the heart and their roles Stroke volume, heart rate and cardiac output Structure of blood vessels Components and functions of blood Vascular Shunt mechanism The impact of physical activity, training & lifestyle on the CV system 	<p>LO3: Respiratory System</p> <ul style="list-style-type: none"> The structures of the lungs and their roles The mechanics of breathing Respiratory muscles used during exercise Gaseous exchange at the alveoli Tidal volume, breathing frequency and minute ventilation. The impact of physical activity, training & lifestyle on the respiratory system <p>LO4: Energy Systems</p> <ul style="list-style-type: none"> The three energy systems The energy continuum Recovery process for each system <p>How to prepare for the exam</p>		<p>LO3</p> <ul style="list-style-type: none"> What 'analysis of performance' is and its importance in improving performance Methods that can be used to analyse sports performance Pros and cons of different methods of performance analysis To match the most appropriate methods of analysis to a variety of given sports and situations Use of different methods to analyse To analyse different types of sports performances <p>LO4</p> <ul style="list-style-type: none"> Selection and use of appropriate feedback methods for a range of sporting situations, 	<p>LO1:</p> <ul style="list-style-type: none"> What is performance profiling? The main objectives of performance profiling The performance profiling process, Why and how the performance profiling process may be adapted Different methods of recording performance profiling results The ways in which focus areas that are identified by performance profiling might be improved upon <p>LO2:</p> <ul style="list-style-type: none"> To carry out a personal performance profiling exercise for a sport of their choice To carry out a performance profiling exercise for another person by rating their level of achievement for the identified characteristics of their selected sport To display performance profiling results in a range of different ways To plan for improvement in the weaker areas identified by performance profiling, using an appropriate method 	<p>LO1:</p> <ul style="list-style-type: none"> Roles of sports coaches and activity leaders Responsibilities of sports coaches and activity leaders How the roles and responsibilities involved in teaching and delivering sport differ. <p>LO2:</p> <ul style="list-style-type: none"> Principles of leadership Personality types Group dynamics Creating an effective team environment Steiner's model of group effectiveness Attributes of coaches and leaders: <p>LO3:</p> <ul style="list-style-type: none"> Methods for identifying strengths and weaknesses in skills, techniques and deployment of tactics Classification of skills and its links to types of practice Types of practice Methods for measuring improvement in skills, techniques and deployment of tactics, objective measures, performance analysis & technology 	<p>LO4:</p> <ul style="list-style-type: none"> Review participants' needs considering which could influence coaching sessions Key considerations when planning sports/activity sessions SMART goal setting <p>LO5:</p> <ul style="list-style-type: none"> Preparing equipment for sports/activity sessions, Preparing the environment for sports/activity sessions, Assessing and minimising risks before sports/activity sessions Appropriate safeguarding policies and procedures <p>LO6:</p> <ul style="list-style-type: none"> Preparing participants for sport/activity sessions Delivering warm-up activities which are appropriate for the participants and session, Delivering sport/activity sessions, Concluding coaching sessions <p>LO7:</p> <ul style="list-style-type: none"> Reviewing sport/activity sessions 	
Key vocabulary	<p>LO1:</p> <p>Axial skeleton, i.e.</p> <ul style="list-style-type: none"> cranium sternum ribs vertebral column, i.e. o cervical vertebrae o thoracic vertebrae o lumbar vertebrae o sacrum o coccyx <p>Appendicular skeleton, i.e.</p> <ul style="list-style-type: none"> scapula clavicle humerus radius ulna 	<p>LO2:</p> <p>Muscles</p> <p>shoulder – deltoid, latissimus dorsi, pectoralis major, trapezius, teres major</p> <ul style="list-style-type: none"> elbow - biceps brachii, triceps brachii radio-ulnar - pronator teres, supinator muscle wrist - wrist flexors, wrist extensors vertebral column - rectus abdominus, erector spinae group, internal and external obliques hip – iliopsoas, gluteus maximus, gluteus 		<p>LO4:</p> <p>The structures of the lungs and their roles, i.e.</p> <ul style="list-style-type: none"> nasal cavity epiglottis pharynx larynx trachea bronchi bronchioles alveoli <p>Respiratory muscles used during exercise, i.e.</p> <ul style="list-style-type: none"> sternocleidomastoid scalene 	<p>LO5:</p> <ul style="list-style-type: none"> Adenosine Tri/Di phosphate - ATP & ADP-ATPase ATP-PC/alactic system - Creatine kinase Lactic acid system glycolysis Aerobic system - Krebs cycle Electron Transport Chain type of reaction (aerobic or anaerobic) 	<p>Biomechanics</p> <p>Gap Analysis</p> <p>Key performance indicators</p> <p>Notational</p> <p>Performance analysis</p> <p>Performance profiling</p> <p>SMART targets</p> <p>Feedback</p> <p>Observation</p> <p>Software / Apps</p> <p>Data Mining</p> <p>Video analysis</p> <p>Explain</p> <p>Evaluate</p>	<p>Biomechanics</p> <p>Gap Analysis</p> <p>Key performance indicators</p> <p>Notational</p> <p>Performance analysis</p> <p>Performance profiling</p> <p>SMART targets</p> <p>Feedback</p> <p>Components of Fitness</p> <p>Psychological demands/aspects</p> <p>Principles of Training</p> <p>Explain</p> <p>Evaluate</p> <p>Undertake</p> <p>Record</p>	<p>Role model</p> <p>Motivator</p> <p>Instructor</p> <p>Mentor</p> <p>Facilitator</p> <p>Demonstrator</p> <p>Adviser</p> <p>Support</p> <p>Fact finer</p> <p>Councillor</p> <p>Organiser</p> <p>Ethical</p> <p>Duty of care</p> <p>Safeguarding</p> <p>Risk assessment</p> <p>Sports Coach</p> <p>Sports/activity leader</p>

<ul style="list-style-type: none"> • carpals • metacarpals • phalanges • ilium • ischium • pubis • femur • patella • tibia • fibula • tarsals • talus • metatarsals <p>Functions, i.e.</p> <ul style="list-style-type: none"> o shape o support o protection o movement o blood cell production o mineral storage <p>Types of bone, i.e.</p> <ul style="list-style-type: none"> o long o short o flat o irregular o sesamoid <p>Classifications of joints ie</p> <ul style="list-style-type: none"> • fixed/fused • slightly movable/cartilaginous • freely movable/synovial <p>The types of synovial joint, i.e.</p> <ul style="list-style-type: none"> • hinge • ball and socket, • pivot, • condyloid, • saddle • gliding <p>Structure, i.e.</p> <ul style="list-style-type: none"> o articular/hyaline cartilage o ligaments o synovial membrane o synovial fluid o menisci o pads of fat o bursae o joint capsule <p>Joint movements, i.e.</p> <ul style="list-style-type: none"> • flexion and extension • lateral flexion • abduction and adduction • horizontal abduction and adduction • medial and lateral rotation • circumduction • pronation and supination • dorsi flexion and plantar flexion <p>Structure and function of the vertebral column</p> <p>The impact of physical activity, training and lifestyle, i.e.</p> <ul style="list-style-type: none"> • short-term effects • long-term effects • effects of warm ups and cool downs 	<p>medius, gluteus minimus, adductor longus, adductor brevis, adductor magnus</p> <ul style="list-style-type: none"> • knee - rectus femoris, vastus medialis, vastus intermedius, vastus lateralis, biceps femoris, semimembranosus, semitendinosus • ankle - tibialis anterior, gastrocnemius, soleus <p>Types of muscle function,</p> <ul style="list-style-type: none"> • agonist • antagonist • fixator <p>Types of muscle contraction, i.e.</p> <ul style="list-style-type: none"> • isometric • concentric • eccentric <p>Structure and function of muscle fibre types, i.e.</p> <ul style="list-style-type: none"> • slow oxidative • fast oxidative • fast glycolytic <p>Short & Long term effects including warm up and cool down</p> <p>LO3: The structures of the heart and their roles, i.e.</p> <ul style="list-style-type: none"> • atria • ventricles • bicuspid and tricuspid valves • pulmonary and aortic valves • aorta • venae cavae • pulmonary artery • pulmonary vein <p>Stroke volume, heart rate and cardiac output</p> <p>Structure of blood vessels, i.e.</p> <ul style="list-style-type: none"> • arteries • arterioles • capillaries • venules • veins <p>Components and functions of blood, i.e.</p> <ul style="list-style-type: none"> • red blood cells • white blood cells platelets • plasma <p>Vascular shunt mechanism pre-capillary sphincters</p>	<ul style="list-style-type: none"> • pectoralis minor • internal intercostals • rectus abdominus • diaphragm <p>Mechanics of breathing</p> <p>inspiration expiration inspiration</p> <p>Gaseous exchange at the alveoli</p> <p>Tidal volume, breathing frequency and minute Ventilation</p> <p>The impact of physical activity, training, and lifestyle on the respiratory system, i.e.</p> <ul style="list-style-type: none"> • short-term effects • long-term effects • effects of warmups and cool downs 	<ul style="list-style-type: none"> • chemical or food fuel • amount of ATP produced • by-products <p>Energy continuum - intensity and duration</p> <p>The recovery processes. & timescales for full recovery</p>		<p>Undertake Record Select and use Compare & contrast Justify Analyse Create</p>	<p>Select and use Compare & contrast Justify Analyse Create</p>	<p>PE teacher LO2: Principles of leadership Autocratic, democratic, laissez-faire Personality – aggressive, passive, introvert, extrovert, NACH, NAF, type A & B Group cohesion Social loafing Skill continuums: Open/closed skills Gross /fine Simple/complex Discrete/serial/complex Practice type: Whole; part; whole-part-whole; variable; fixed; massed; open</p> <p>Describe Compare Explain Demonstrate Evaluate Plan Deliver Suggest</p>	
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The role of reading and comprehension	To understand the key content, concepts and information required within the learning outcomes. To apply this to scenarios within exam style questions.		Reading articles associated with performance analysis. Understanding an athlete's demands. Understanding feedback	
The role of independent extended writing	Apply knowledge within an 10-mark extended question within an exam.		Apply knowledge and understanding when writing tasks and providing evidence to meet the criteria	Apply knowledge and understanding when writing tasks and providing evidence to meet the criteria
The role of maths/ numeracy	Calculating HR, Cardiac Output and Stroke volume using the equation $Q = SV \times HR$ Calculating minute volume using equation $MV = f \times TV$ Completing graphs and tables and comparing differences		Analysis methods including use of statistics.	Timings Distances Data linked to performance Group sizes
Links to careers/ aspirations	Sports scientist; physiotherapy; strength and conditioning coaches, PE teacher/professor of sports sciences		Performance Analysis Coaching PE teacher	Sports coach, activity leader, PE teacher,
Core skills <i>A skill is a performance built on what a person knows</i>	<ul style="list-style-type: none"> • Application of key concepts • Linking of appropriate learning • Exam style question answering • Comprehension of information • Construction/planning of extended writing • Retrieval/recall of prior knowledge and an ability to apply this 		Analysing Profiling performance Recording results Feeding back Creating an action plan	<ul style="list-style-type: none"> • Preparing a sports and activity environment • Planning and designing activity sessions • Leading/coaching activity session • Use methods to improve skills. Techniques and tactics • Reviewing Evaluating – self and others
Dept. enrichment activities	KSG events. Extra-curricular programme. Active Life partnership. University trip		University visit Brentford FC Video Extra-curricular involvement	Leadership programme eg. Mentor sports Sports Leader Awards Sports Day SScO involvement for schools games
Home learning opportunities	Science museum Lectures from scientists		Watching professional sport and how they analyse performance	Coaching outside of school