BTEC Level 3 National Extended Certificate in Sport

Curriculum Intent

Curriculum Rationale

It is our intent within the delivery of the BTEC Level 3 National Certificate in Sport to prepare students for the future by equipping them with the knowledge to lead a mentally healthy and active lifestyle. We aim to provide a broad and balanced curriculum which develops depth of not only a range of physical activities, but to understand the opportunities available to them throughout sport for them to have lifelong participation. These activities will range from your traditional sports such as Rugby & Netball to activities that are more contemporary such as Yoga & Tchoukball. Students will also learn to be critical thinkers; analysing data and performance to improve on aspects of their own or others skills and fitness.

We are determined in PE that our school curriculum will engage, inspire, challenge and motivate students, securing knowledge and skills to enhance student's personal development, providing life-long learning and increasing their employability.

Within PE, students will develop their communication skills, demonstrating how to express their views, whilst working collaboratively within teams to problem solve in order to be successful. Students will also have opportunities to work independently to showcase their skills and be placed in challenging situations where they can develop resilience. Students will also improve their knowledge of a range of activities for example, the individual roles of players, rules of each activity and role and hand signals of all officials as well as tactical knowledge to outwit your opponent.

Additionally, within the curriculum students consider the fundamental British Values of democracy, the rule of law through officiating games, individual liberty and mutual respect through working with others and tolerance of those with different views and opinions. Furthermore, students will have the opportunity to research basic first aid, understand how to conduct fitness tests, and the effect of healthy eating on their bodies.

A major focus currently of the PE curriculum is supporting students Mental Wellbeing. We will regularly evaluate the impact physical activity has on their own or others' mental health; educating students on the benefits of physical exercise on improving mental wellbeing, as well as promoting positive experiences of physical exercise by studying a very broad range of activities to help students find something they enjoy and would like to pursue.

There is more to Physical Education then just being able to play different sports. Students will learn the fundamental skills that will allow them to be able to contribute fully to not only the school but the wider community now and to prepare students for the future. Students learn about fair play, how to be disciplined in times of challenge, gracious in times of defeat and to honour sportsmanship regardless of how others treat

us. Students will develop a sense of belonging; how they can contribute to a team, the need for organisation, for punctuality, for reliability and ultimately, they will learn that actions have consequences.

Sport is a global and expanding industry and by studying sport students have the opportunity to be a part of something new and exciting. The BTEC Level 3 National Certificate in Sport is for learners who want to acquire sector-specific applied knowledge and skills through vocational contexts by exploring the different types and providers of sport and physical activity and the equipment and technology available for participation as part of their Key Stage 5 learning. They will also explore the different types of participants and their needs in order to gain an understanding of how to increase participation for others in sport and physical activity and further develop their knowledge and understanding of anatomy and physiology. Learners will undertake practical sessions to develop skills in planning and delivering sports activity sessions to participants. The qualification enables learners to develop their sector-specific skills, such as sport analysis and sports leadership, using realistic vocational contexts, and personal skills, such as communication, planning, time management and teamwork through a practical and skills-based approach to learning and assessment. The qualification recognises the value of learning skills, knowledge and vocational attributes to complement A-Levels. The qualification will broaden learners' experience and understanding of the varied progression options available to them.

It would be unfair to say that studying BTEC Sport is easy; learning does take a lot of time, effort and dedication. Students will be pushed out of their comfort zone. But most importantly, you will love it, you will have fun and you will be well equipped to be successful!

Trips and visits

Potential visits to local Universities to experience use of fitness testing equipment as part of this topic of study.

Assessment

Unit 1: Anatomy and Physiology - Written examination set and marked by Pearson - 1.5 hours - 80 marks.

Unit 2: Fitness Training and Programming for Health, Sport and Well-being - A task set and marked by Pearson and completed under supervised conditions. In Part A, learners will be given a case study one week before a supervised assessment period in order to carry out preparation. In Part B, the supervised assessment period is 2.5 hours as timetabled by Pearson - Written submission - 60 marks.

Units 3 and 7: Internally-assessed units – Assignments set and assessed by teachers. Learners could be given opportunities to: write up the findings of their own research, use case studies to explore complex or unfamiliar situations, carry out projects for which they have choice over the direction and outcomes, demonstrate practical and technical skills.

Homework

Homework will support the learning in class; consolidation, lesson preparation and extended research. Books will be used for practice exam questions, research notes and extended written tasks

Parental/Carer support

Attendance to parents evenings, use of My Child at School and Teams

Helpful sources of information

Details of the specification can be found at: <u>https://qualifications.pearson.com/en/qualifications/btec-nationals/sport-2016.html</u> - select Extended Certificate

Connections to future pathways

Careers: Police officer: PE teacher, Personal trainer, Armed forces, Fire fighter, Doctor

Future learning: A Level Physical Education; Cadets, Air Force, BTEC level 3 sports qualifications, Sports Coaching courses

Year 12 Overview

Term	Knowledge	Assessment	Connections to learning
Autumn	Big Idea – Unit 1 – Anatomy and Physiology: having an under professionals can help support people who are taking part in a systems that interrelate to allow us to take part in a huge varie rest to sprinting in a matter of seconds, whereas an endurance Unit 2 – Fitness training and Programming for health, sport ar support clients to increase their fitness levels and also ensurin work in the health and fitness industry, staff need to know how programmes to take into account individual needs.	erstanding of body systems is import and exercise. The human hety of sport and exercise activities athlete can continue exercising a client is in appropriate health we to assess clients and then be a	perative in the sports industry so that body is made up of many different es. For example, an athlete can go from g for many hours at a time. ess industry is concerned with helping to h to take on a fitness programme. To able to plan appropriate training
	 Unit 1: Anatomy and Physiology – LJS A The effects of exercise and sports performance on the skeletal system A1 Structure of skeletal system Understand how the bones of the skeleton are used in sporting techniques and actions. •Major bones to include cranium, clavicle, ribs, sternum, scapula, humerus, radius, ulna, carpals, metacarpals, phalanges, pelvis, vertebral column (cervical, thoracic, 	 Exam questions Peer marking Quizzes End of Unit Tests Spaced Retrieval League Writing scaffold 	 Prior learning of: Joints Muscle contractions Future of learning of: Improves practical performance by applying principles to coaching/training. (A04) Connections to the curriculum

lumbar, sacrum, coccyx), femur, patella, tibia, fibula,	\triangleright	Health education topics;1,3,4,5,6
tarsals, metatarsals.		and 8
 Type of bone – long, short, flat, sesamoid, irregular. 	\succ	Relationships and sex education
 Areas of the skeleton to include axial skeleton, 		topics: 2.
appendicular skeleton, spine, curves of the spine, neutral	\triangleright	SMSC topics 1.2. 3 and 4
spine alignment, postural deviations (kyphosis, scoliosis).		
 Process of bone growth – osteoblasts, osteoclasts, 		
epiphyseal plate.A2 Function of skeletal system		
Understand how the functions of the skeleton and bone		
types are used in sporting actions and exercise.		
 Functions of the skeleton when performing sporting 		
techniques and actions:		
supporting framework		
protection		
attachment for skeletal muscle		
source of blood cell production		
store of minerals		
leverage		
weight bearing		
reduce friction across a joint.		
 Main functions of different bone types when performing 		
sporting techniques and actions:		
long bones – provides leverage, red blood cell production		
short bones – weight bearing		
flat bones – protection		
sesamoid bones – reduce friction across a joint.		
A3 Joints - Understand how joints of the upper and lower		
skeleton are used in sporting techniques and actions.		
 Joints of the upper skeleton (shoulder, elbow, wrist, 		
cervical and thoracic vertebrae).		
 Joints of the lower skeleton (hip, knee, ankle, lumbar, 		
sacrum, coccygeal vertebrae).		
•Classification of joints – fibrous (fixed), cartilaginous		
(slightly moveable), synovial (freely moveable).		
 I ypes of synovial joints (ball and socket, condyloid, 		
gliding, saddle, hinge, pivot).		

 The bones forming the following joints (shoulder, elbow, 	
wrist, hip, knee, ankle, and their use in sporting	
techniques and actions).	
 Structure and function of components of synovial joints 	
and their use in sporting techniques and actions (joint	
capsule, bursa, articular cartilage, synovial membrane,	
synovial fluid, ligaments).	
 Range of movement at synovial joints due to shape of 	
articulating bones and use in sporting actions (flexion,	
extension, dorsiflexion, plantarflexion, lateral flexion,	
horizontal flexion and horizontal extension,	
hyperextension, abduction, adduction, horizontal	
abduction and adduction, rotation, circumduction).	
Unit 2: Fitness Training and Programming for Health, Sport	
and Well-being – BET	
A Examine lifestyle factors and their effect on health and	
well-being	
A1 Positive lifestyle factors and their effects on health and	
well-being Understand the importance of lifestyle factors in	
the maintenance of health and well-being.	
 Exercise/physical activity: physical (strengthens bones, 	
improves posture, improves body shape), reduces risk of	
chronic diseases (CHD, cancer, type 2 diabetes),	
psychological (relieves stress, reduces depression,	
improves mood), social (improves social skills, enhances	
self-esteem), economic (reduces costs to National Health	
Service, reduces absenteeism from work).	
•Balanced diet: eatwell plate (food groups), benefits of a	
nealtny diet (improved immune function, maintenance of	
body weight, reduces risk of chronic diseases – diabetes,	
osteoporosis, nypertension, nigh cholesterol), fluid intake	
requirements (moderation of catterne intake), strategies for	
improving dietary intake (timing of meals, eating less/more	
or certain rood groups, rive a day, reducing salt intake,	
nealtny alternatives).	

 Positive risk-taking activities: participation in outdoor and adventurous activities, endorphin release, improved confidence. Government recommendations/guidelines: UK Government recommendations (physical activity, alcohol, healthy eating). A2 Negative lifestyle factors and their effects on health and well-being Understand the factors contributing to an unhealthy lifestyle. Smoking: health risks associated with smoking (CHD, cancer, lung disease, bronchits, infertility). Alcohol: health risks associated with excessive alcohol consumption (stroke, cirrhosis, hypertension, depression). Stress: health risks associated with excessive stress (hypertension, angina, stroke, heart attack, stomach ulcers, depression). Sleep: problems associated with lack of sleep (depression, overeating). Sedentary lifestyle: health risks associated with lack of sleep (depression, overeating). Stress: the odification techniques - Understand how lifestyle modification techniques can be used to reduce unhealthy lifestyle behaviours. Common barriers to change: time, cost, transport, location. Strategies to increase physical activity levels: at home, at work, during leisure time, method of transport. Smoking helpline, NHS smoking services, nicotine replacement therapy, Quit Kit support packs. Strategies to reduce alcohol consumption: counselling, self-help groups, alternative treatments. Stress training, goal setting, time management, physical activity, positive self-talk, relaxation, breathing techniques, changes to work life helanee. 	
work-life balance.	
PRACTICAL Unit 7 – B - Examine the skills, techniques and tactics required to perform in selected sports	

	 B1 Technical demands required to perform in a sport These are the skills required in specific sports, and the applied technique of the skill for effective participation. Skills, to include continuous skills (e.g. running), serial skills (e.g. pole vault), discrete skills (e.g. golf swing) attacking skills, defensive skills. Examples of skills: take-off in the high jump, landing in the long jump, throwing execution in the shot put, attacking shots in racket sports, defensive shots in racket sports, a golf swing, body position in a rugby tackle, footwork in basketball, rotation in gymnastics. Breakdown of how the techniques of the skill are applied for effective participation to include continuous, serial, discrete, attack, defence. B2 Tactical demands applied in sports performance Tactics should be relevant to specific sports. Defending and attacking, e.g. formations, shot selections, movement, body position, phases of play, use of space. Decision making.•Communication.•Environmental conditions. 		
Spring	Big Idea – Unit 1 – Anatomy and Physiology: having an under professionals can help support people who are taking part in a systems that interrelate to allow us to take part in a huge varia- rest to sprinting in a matter of seconds, whereas an endurance Unit 2 – Fitness training and Programming for health, sport ar support clients to increase their fitness levels and also ensuria work in the health and fitness industry, staff need to know how programmes to take into account individual needs.	erstanding of body systems is import and exercise. The human bety of sport and exercise activities athlete can continue exercising a client is in appropriate health w to assess clients and then be a	perative in the sports industry so that body is made up of many different es. For example, an athlete can go from g for many hours at a time. ess industry is concerned with helping to th to take on a fitness programme. To able to plan appropriate training
	 LJS - A4 Responses of the skeletal system to a single sport or exercise session Simulated increase of mineral uptake in bones due to weight-bearing exercise. A5 Adaptations of the skeletal system to exercise The impact of long-term effects of exercise on sports performance. 	 Exam questions Peer marking Quizzes End of Unit Tests Spaced Retrieval League Writing scaffold 	➤ SMSC: FBV: HE:

 Skeletal adaptations – increased bone strength, 	
increased ligament strength.	
AG Additional factors offecting the skeletal system	
Ao Additional lactors allecting the skeletal system	
Understand the impact of the skeletal system on exercise	
and sports performance and the impact of exercise and	
sports performance on the skeletal system. •Skeletal	
disease – arthritis, osteoporosis, and the effect of	
exercise in offsetting these conditions.	
•Age – young children and resistance training issues	
stunting hone growth	
stanting bone growin.	
D The effects of eventies and enoute nonfermance on the	
B The effects of exercise and sports performance on the	
muscular system	
B1 Characteristics and functions of different types of	
muscles Understand different types of muscles and their	
use in sport.	
•Cardiac – non-fatiguing, involuntary, •Skeletal – fatiguing,	
voluntary	
•Smooth - involuntary, slow contraction	
Sinoour – involuntary, slow contraction.	
B. Understand the screening processes for training	
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BT Screening Processes- be able to interpret the mestyle	
of a selected individual using appropriate screening	
documentation, and know when to refer the individual to a	
doctor.	
•Screening questionnaires: lifestyle questionnaires, physical	
activity readiness questionnaires (PAR-Q).•Legal	
considerations: informed consent form, data protection,	
client confidentiality.	
B2 Health monitoring tests Be able to interpret health	
monitoring results of a selected individual using normative	
data and make appropriate recommendations •Rlood	
pressure •Resting heart rate •Rody mass index (RMI) •Moist	
to his ratio	
10 IIIp Iallo.	
bs interpreting the results of health monitoring tests Be	
able to interpret health monitoring data against health	

norms and make judgements. •Interpret results against normative data: compare and make judgements against population norms, norms for sports performers, norms for elite athletes, accepted health ranges. C Understand programme-related nutritional needs C1 Common terminology - Understand common nutritional terminology. •Recommended daily allowance (RDA), energy measures (calories, joules, kilocalories, kilojoules).•Energy balance: basal metabolism, age, gender, climate, physical activity, calories used in different activities (intensity and length of time).	
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Summer	 B2 Major skeletal muscles of the muscular system - LJS Major skeletal muscles and their combined use in a range of sporting actions. Deltoids, biceps, triceps, wrist flexors, wrist extensors, supinators and pronators, pectorals, abdominals, obliques, quadriceps, hip flexors, tibialis anterior, erector spinae, trapezius, latissimus dorsi, gluteals, hamstrings, gastrocnemius, soleus. B3 Antagonistic muscle pairs - Movement of muscles in antagonistic pairs and their use in a variety of sporting actions. Agonist. Antagonist. Synergist. Fixator. B4 Types of skeletal muscle contraction Understand skeletal muscle contraction in different sporting actions. Isometric. Concentric. Eccentric. B5 Fibre types Understand fibre type recruitment during exercise and sports performance. 	 Exam questions Peer marking Quizzes End of Unit Tests Spaced Retrieval League Writing scaffold 	> SMSC: FBV: HE:

 Characteristics of each muscle fibre type:otype lotype 	
Ilaotype Ilx.	
•Nervous control of muscle contraction (all or none law).	
B6 Responses of the muscular system to a single sport or	
exercise session	
 Increased blood supply. 	
 Increased muscle temperature. 	
 Increased muscle pliability. 	
•Lactate (high-intensity exercise).	
•Microtears (resistance exercise).	
B7 Adaptations of the muscular system to exercise	
The impact of adaptation of the system on exercise and	
sports performance.	
•Hypertrophy.	
 Increased tendon strength. 	
 Increase in myoglobin stores. 	
 Increase in number and size of mitochondria. 	
 Increase in storage of glycogen. 	
 Increase in storage of fat. 	
 Increased tolerance to lactate. 	
B8 Additional factors affecting the muscular system	
Understand additional factors affecting the muscular system	
and their impact on exercise and sports performance.	
•Age – effect of the aging process on loss of muscle mass.	
•Cramp – involuntary sustained skeletal muscle contraction	
C2 Components of a balanced diet - Understand the	
requirements of a balanced diet – BET	
•Macronutrients (carbohydrates, fats, protein), sources of	
food for each macronutrient, quantities.•Micronutrients	
(vitamins A, B, C and D, minerals calcium, iron), sources of	
food for each micronutrient, quantities.•Hydration (different	
requirements of fluid intake: climate, levels of exercise,	
programme type, time of year). •The effects on performance	

of dehydration and hyperhydration and the signs and symptoms of each.	
C3 Nutritional strategies for individuals taking part in training programmes •Understand different strategies used on an individual basis by:oadapting diet to gain or lose weight. •Understand the use of ergogenic aids used in training programmes including positive and negative effects, and recommended timings: energy gels and bars protein drinks carbohydrate loading. •Understand the use of sports drinks for different types of training requirements including recommended timings and amounts: Isotonic Hypertonic hypotonic.	
D Examine training methods for different components of fitness D1 Components of fitness to be trained •Physical fitness – understand the components of physical fitness and the application of each component in a fitness training context. Aerobic endurance: the ability of the cardiorespiratory system to work efficiently, supplying nutrients and oxygen to working muscles during sustained physical activity. Strength: the maximum force (in kg or N) that can be generated by a muscle or muscle group. Muscular endurance: the ability of the muscular system to work efficiently, where a muscle can continue contracting over a period of time against a light to moderate fixed resistance load. Flexibility: having an adequate range of motion in all joints of the body, the ability to move a joint fluidly through its complete range of movement.	

Speed: the ability to move the whole body quickly or move limbs rapidly. Body composition: the relative ratio of fat-to-fat -free mass (vital organs, muscle, bone) in the body. D1.1 Skill-related fitness - Understand the components of skill-related fitness - Understand the component in a fitness training context. *Qility: the ability of a sports performer to quickly and precisely move or change direction without losing balance or time -Balance: static and dynamic balance, the ability to maintain centre of mass over a base of support -Coordination: the ability to control movement of two or more body parts, smoothly and efficiently to perform a motor task-Reaction time: the time taken for a sports performer to respond to a stimulus and the initiation of their response -Power: the ability to produce a maximal force in the shortest period of time possible D2.3 Muscular endurance training methodsMuscular endurance training methods and their application to a practical context. +Principles when training for endurance: repetitions and low loads, order of exercises to prevent muscle fatigueMethods: circuit training, fixed resistance machines, free weights-Equipment: free weights, fixed resistance machines, resistance bands/tubing. D2.4 Core stability training methodsCore stability training methods and their application to a practical context -Principles. Methods: picitating, stability taining methods and their application to a practical context -Principles. Methods: picitating, stability taining methods and their application to a practical context -Principles. Methods: picitating, stability balls. D2.5 Flexibility training entods Flexibility training methods and their application to a practical context -Principles. Methods: picitating nethods		-	
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T		
	D2.6 Speed training methods - Speed training methods	
	and their application to a practical context.•Principles of	
	speed training: training thresholds, percentage of heart rate	
	max, recovery period between sets:	
	hollow sprints	
	acceleration sprints	
	interval training	
	resistance drills – hill runs, parachutes, sleds, bungee	
	ropes.•Equipment: resistance bands/tubes, parachutes,	
	bungee rope, resistance tyres.	
	D3 Training methods for skill-related fitness components -	
	Appropriate training methods included in the design of a	
	training programme.	
	D3.1 Agility training methods - Agility training methods	
	and their application to a practical context.	
	•Exercises which involve changing the body position	
	guickly and with control:	
	SAQ (speed, agility, quickness)	
	sport-specific drills.	
	D3.2 Balance training methods - Balance training	
	methods and their application to a practical context. •Static	
	balance: static balance exercises focus on retaining the	
	centre of mass above the base of support when stationary.	
	•Dynamic balance: focus on retaining the centre of mass	
	above the base of support when moving.	
	 Method: using stable and unstable surfaces on which to 	
	balance.	
	D3.3 Coordination training methods - Coordination	
	training methods and their application to a practical context.	
	•Exercises which involve the use of two or more body parts	
	together:	
	sport-specific activities.	
	D3.4 Reaction time training methods - Reaction time	
	training methods and their application to a practical context.	
	 Reaction drills in response to an external stimulus. 	
	•Equipment: stopwatch, whistle, visual stimulus, auditory	
	stimulus, reaction ball.	

D3.5 Power training methods - Power training method and their application to a practical context. •Plyometrics: specific to the sport.•Equipment: ladders, cones, jump ropes, medicine ball, hurdles, benches.	3

Year 13 Overview

Term	Knowledge	Assessment	Connections to learning	
	Big Idea – Unit 1 – Anatomy and Physiology: having an understanding of body systems is imperative in the sports industry so that professionals can help support people who are taking part in sport and exercise. The human body is made up of many different systems that interrelate to allow us to take part in a huge variety of sport and exercise activities. For example, an athlete can go from rest to sprinting in a matter of seconds, whereas an endurance athlete can continue exercising for many hours at a time. Unit 2 – Fitness training and Programming for health, sport and wellbeing: The health and fitness industry is concerned with helping to support clients to increase their fitness levels and also ensuring a client is in appropriate health to take on a fitness programme. To work in the health and fitness industry, staff need to know how to assess clients and then be able to plan appropriate training programmes to take into account individual needs.			
Autumn 1 & 2	 C The effects of exercise and sports performance on the respiratory system – LJS C1 Structure of the respiratory system Structure of the respiratory system (nasal cavity, epiglottis, pharynx, larynx, trachea, bronchus, bronchioles, lungs, alveoli, diaphragm, thoracic cavity). Intercostal muscles (external and internal). C2 Understand the function of the respiratory system in response to exercise and sports performance. Mechanisms of breathing (inspiration and expiration) at rest and during exercise. Gaseous exchange. C3 Lung volumes - Understand the lung volumes and the changes that occur in response to exercise and sports performance. Tidal volume.•Vital capacity.•Residual volume.•Total lung volume.•Minute ventilation (VE). 	 Exam questions Peer marking Quizzes End of Unit Tests Spaced Retrieval League Writing scaffold 	> SMSC: FBV: HE:	

C4 Control of breathing - Understand how breathing rate		
is controlled in response to exercise and sports		
performance		
.•Neural (medulla oblongata as the respiratory centre in		
the brain).•Chemical (chemoreceptors detect change in		
blood carbon dioxide concentrations and changes in pH).		
C5 Responses of the respiratory system to a single sport		
or exercise session		
 Increase in breathing rate. Increased tidal volume. 		
C6 Adaptations of the respiratory system to exercise		
The impact of adaptation of the system on exercise and		
sports performance.		
 Increased vital capacity Increased strength of the 		
respiratory muscles. Increase in oxygen and carbon		
dioxide diffusion rate.		
C7 Additional factors affecting the respiratory system		
Understand additional factors affecting the respiratory		
system and their impact on exercise and sports		
performance.		
•Asthma.		
•Effects of altitude/partial pressure on the respiratory		
system.		
D. The effects of sport and exercise performance on the		
cardiovascular system		
D1 Structure of the cardiovascular system		
•Structure of the cardiovascular system – atria ventricles		
bicuspid valve tricuspid valve semi-lunar valves septum		
major blood vessels (aorta, vena cava, pulmonary artery,		
pulmonary vein) coronary arteries •Structure of blood		
vessels – arteries, arterioles, veins, venuoles,		
capillaries.•Composition of blood – red blood cells, plasma.		
white blood cells, platelets.		
D2 Function of the cardiovascular system - Understand the		
function of the cardiovascular system in response to		
exercise and sports performance.		
•Delivery of oxygen and nutrients.•Removal of waste		
products – carbon dioxide and lactate. •Thermoregulation –		
	1	1

vasoconstriction, vasodilation of blood vessels.•Fight	
infection.•Clot blood.	
D3 Nervous control of the cardiac cycleUnderstand the	
control of the cardiac cycle and how it changes during	
exercise and sports performance.	
 Conduction processoSinoatrial node 	
(SAN).oAtrioventricular node (AVN).	
Bundle of His.	
Purkinje fibres.	
•Effect of the sympathetic and parasympathetic nervous	
system.	
D4 Responses of the cardiovascular system to a single	
sport or exercise session	
 Anticipatory increase in heart rate prior to 	
exercise.•Increased heart rate.•Increased cardiac	
output.•Increased blood pressure.•Redirection of blood	
flow.	
D5 Adaptations of the cardiovascular system to	
exerciseThe impact of adaptation of the system on	
exercise and sports performance.•Cardiac	
hypertrophy.•Increase in resting and exercising stroke	
volume.•Decrease in resting heart rate.•Capillarisation of	
skeletal muscle and alveoli.•Reduction in resting blood	
pressure.•Decreased heart rate recovery time.•Increase in	
blood volume.	
D6 Additional factors affecting the cardiovascular system -	
Understand additional factors affecting the cardiovascular	
system and their impact on exercise and sports	
performance.	
•Sudden arrhythmic death syndrome (SADS).•High blood	
pressure/low blood pressure.•Hyperthermia/hypothermia.	
D2 Training methods for physical fitness-related	
components – BET	
Appropriate training methods to be included in the design	
of a training programme. Indoor and outdoor environments	
to be considered, with associated equipment, to allow for a	
variety of methods of exercising. Advantages and	

Spring	disadvantages of training methods to be considered when applied to a specific sport and exercise goal. D2.1 Aerobic endurance training methods - Aerobic endurance training methods and their application to a practical context.•Principles of aerobic training: training thresholds, percentage of heart rate max. •Types of aerobic endurance training methods: continuous training – training at a steady pace at moderate intensity for a minimum period of 30 minutes fartlek training – the intensity of training is varied by running at different speeds or over different terrains interval training – a work period followed by a rest or recovery period circuit training – different stations/exercises are used to develop aerobic endurance. •Equipment required for aerobic endurance training: gym- based, outdoor-based. D2.2 Muscular strength training methods - Muscular strength training methods and their application to a practical context. •Principles when training for strength: repetitions and sets, rest periods between sets, low repetitions and high loads, order of exercises to prevent or maximise muscle fatigue.•Methods: pyramid sets.•Equipment: free weights, fixed resistance machines D3.4 Reaction time training methods - Reaction time training methods and their application to a practical context. •Reaction dills in response to an external stimulus.•Equipment: stopwatch, whistle, visual stimulus, auditory stimulus, reaction ball. D3.5 Power training methodsPower training methods and their application to a practical context. •Plyometrics: specific to the sport.•Equipment: ladders, cones, jump ropes, medicine ball, hurdles, benches.		
1 & 2	*	Big Idea	

Rational			
 E The effects of exercise and sports performance on the energy systems - LJS E1 The role of ATP in exercise - Understand the role of adenosine triphosphate (ATP) for muscle contraction for exercise and sports performance. Immediately accessible form of energy for exercise.•Breakdown and resynthesis of ATP for muscle contraction. E2 The ATP-PC (alactic) system in exercise and sports performance - Understand the role of the ATP-PC system in energy production for exercise and sports performance. Anaerobic.•Chemical source (phosphate and creatine).•Resynthesis of ATP.•Recovery time.•Contribution to energy for exercise and sports performance (duration and intensity of exercise). E3 The lactate system in exercise and sports performance. Anaerobic.•Process of anaerobic glycolysis (glucose converted to lactic acid).•Recovery time.•Contribution to energy for exercise and sports performance. Anaerobic.system in exercise and sports performance. Anaerobic.system in exercise and sports performance. Anaerobic.•Process of anaerobic glycolysis (glucose converted to lactic acid).•Recovery time.•Contribution to energy for exercise). E4 The aerobic system in exercise and sports performance. Areobic site of reaction (mitochondria).•Food fuel source.•Process of aerobic glycolysis, Krebs cycle, electron transport chain.•Recovery time.•Contribution to energy for exercise. E5 Adaptations of the energy system to exercise - The impact of adaptation of the systems on exercise and sports performance. ATP-PC.•Increased creatine stores.•Lactate system.•Increase tolerance to lactate.•Aerobic energy 	 Exam que Peer mark Quizzes End of Uni Spaced Re League Writing sca 	stions ting it Tests etrieval I affold I	> SMSC: FBV: HE:

	system.•Increased use of fats as an energy source.•Increased storage of glycogen.•Increased numbers of mitochondria.		
	 E6 Additional factors affecting the energy systems - Understand additional factors affecting the energy systems and their impact on exercise and sports performance. Diabetes (hypoglycaemic attack). Children's lack of lactate system. 		
Summer	Big Idea: Rationale: Preparation for the summer exam, exam technique, revision technique.		
1			SMSC:FBV:
			HE: