Subject: OCR Sports Science

Year 10

Curriculum Overview

Intent: By the end of year 10 students will have studied 2 coursework modules- R181 Applying the principles of training & R181 The body's response to physical activity and how technology inform this.

	AUTUM 1	AUTUM 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
	R181 Applying the principles of training: fitness and how it affects skill performance			**R182 The body's response to physical activity and how technology**		
Core Course Topic: These topics are taught through the identified terms. They are taught in small bitesize chunks and revisited regularly.	**Topic Area 1: Components of fitness applied in sport**	**Topic Area 2: Principles of training in sport**	**Topic Area 3: Organising and planning a fitness training programme**	**Topic area 1:The cardio-respiratory system and how the use of technology supports different types of sports and their intensities Teaching content Exemplification**	**Topic area 2: The musculo-skeletal system and how the use of technology supports different types of sports and their movements** **Topic areas 3 3. Short-term effects of exercise on the cardio-respiratory and musculoskeletal**	**Topic Area 4: Long-term effects of exercise on the cardio-respiratory and musculoskeletal systems**
Additional support links:	**Components of fitness Link** **Exercise intensities Link** **Principles of training Link** **Fitness tests Link** **Methods of training Link**			**Short & long term adaptations of body systems Cardiorespiratory & musculoskeletal Link** **Energy systems Link**		
Knowledge:	Relevance of components of fitness to different sports The definition of, and suitable fitness tests used, to measure each component of fitness Fitness component requirements of sports:	2.1 Principles of training and goal setting in a sporting context Methods of training and their benefits	Evaluate own performance in planning and delivery of a fitness training programme Teaching content Exemplification	• Short & long term adaptations of body systems • Cardiorespiratory systems	• Short & long term adaptations of body systems • Musculo skeletal • Cardio-respiratory	The sports Performer in Action • long term effects of body systems • Cardiorespiratory & musculoskeletal
Skills:	**Fitness for sport** • Application of number • Analysis of data • Interpretation of instructions • Structure (analysis and application) In the units above students will • recall knowledge and apply to practical situations. • Break things down and then critically analyse their own and others performance. • Put things together and use creative thinking to outwit opponents in competitive situations. • -Evaluate their own and other performance, and feedback how to improve.			Be able to identify or recognise a given item, for example on a diagram • Use direct recall to answer a question, for example the definition of a term. Understanding • To assess and evidence the perceived meaning of something in greater depth than straight identification or recall. • Understanding will be expressed and presented using terms such as: how; why; when; reasons for; benefits and drawbacks of; advantages and disadvantages of; purpose of; suitability of; recommendations for improvement; pros and cons; appropriateness of something to/in different contexts.		
Common Lexicon:	• **Components of fitness:** • Physical: Aerobic endurance, Muscular endurance, Muscular strength, Flexibility, Speed, Body Composition. • Skill: Agility, Balance, Coordination, Power, Reaction time. • **Training methods**: Continuous, Interval, Fartlek, Circuit, Weight, Speed, Flexibility, Plyometric • **Fitness testing** e.g. sit and reach for flexibility • **Principles of training**: Frequency, Intensity, Time, Type • **Additional Principles of training**: Specificity, Progressive Overload, Reversibility, Rest & Recovery, Individual Needs, Variation, Adaptation. • **Exercise intensity** e.g. Borg 6-20 scale, Heart Rate • **Interpretation of results** e.g. using normative data tables			Upper body - cranium, scapula, clavicle, humerus, radius, ulna, ribs, vertebrae □ Lower body - femur, tibia, fibula, patella □ Skeletal muscle groups: □ Upper body - biceps, triceps, abdominals, pectorals, latissimus dorsi, deltoids, trapezius □ Lower body - hamstrings, soleus, gluteals, quadriceps, gastrocnemius □ Synovial joints - Ball and socket, Hinge, Gliding, Pivot □ Connective tissue - Ligaments, Tendons, Cartilage 2.1.2 The role of the components in producing the types of movement: □ Flexion □ Extension □ Abduction □ Adduction □ Rotation □ Circumduction Heart – ventricles, atria, valves □ Blood cells vessels – arteries, veins, capillaries		

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		□ Respiratory system – trachea, lungs, alveoli, diaphragm 1.1.2 Function and role: □ Heart rate / pulse rate □ Blood pressure – stroke volume and cardiac output □ Gaseous exchange – inhalation and exhalation Heart rate, stroke volume, cardiac output □ Breathing rate, gaseous exchange □ Range of movement of joints □ In muscle size and strength □ In resting heart rate/stroke volume/cardiac output □ In heart rate recovery □ In flexibility □ In muscle recovery / DOMs / Lactic acid □ In lung capacity □ When participating in to different intensities of sporting activities including: □ Short high intensity sports □ Endurance sports □ Strength based sports
Ambition Curriculum Links:	Links to different components of fitness for a tennis player https://blog.dnafit.com/train-like-a-wimbledon-winner-5-sports-training-techniques Links to different fitness tests available-see how you compare to the professionals https://www.coachmag.co.uk/exercises/sport-workouts/554/mf-takes-football-fitness-test Links to different training methods used by elite athletes https://www.youtube.com/watch?v=fA1YlyWL8TI	Short term effects of exercise on the body from fitness instructors point of view https://www.youtube.com/watch?v=zHqel3kV76I long term effects of exercise on the body from a physiotherapies point of view https://www.physio-pedia.com/Long_Term_Musculoskeletal_Conditions Energy systems/conditioning for sports https://www.youtube.com/watch?v=qFKThY7PwfA