Year 10 GCSE Physical Education

Note that 3 out of every 5 GCSE PE lessons are theory lessons. The practical sports will include the following sports, Netball, Table Tennis, Athletics, Basketball, Handball and Football

Theory Overview

	2 lessons per cycle/fortnight Minimum of 1 homework per cycle			
Term	**Topic and approximate duration**	**Key learning areas Students should be able to:**	**Required Reading**	**Homework Options Students will be guided by the class teacher as to which level to complete (according to target level)**
Autumn Term 1	**Pathway of air, Gaseous exchange and blood vessels**	- Identification of the pathway of air - How gaseous exchange works and the features that assist in gaseous exchange. - The structures of blood vessels, including arteries, capillaries and veins - How the structure of each bloody vessel relates to the function - The structure of the heart - The order of the cardiac cycle and the pathway of the blood - The relationship between cardiac output, stroke volume and heart rate		Homework 1 - Learn the muscles and bones Homework 2 - Analyse the basic movements using sporting examples
	Mechanics of breathing and spirometer traces	- The mechanics of breathing and the interaction of intercostal muscles, ribs and diaphragm in breathing - Identification of tidal volume, expiratory reserve volume, inspiratory reserve volume and residual volume on a spirometer trace; and how these may change from rest to exercise		
	The short and long term effects of exercise	- Immediate, short term and long term effects of exercise		Homework 3 (Assessed) – Identify the pathway of air and where gaseous exchange occurs
	Recap Musco-skeletal System	- Identification of the bones at the head/neck, shoulder, chest, elbow, hip, knee and ankle - The structure of the skeleton and how the skeletal system provides a framework for movement in conjunction with the muscular system:		

		- The functions of the skeleton and how they should be applied to performance in physical activity. - The muscles of the body and the role of tendons - Identification of what a synovial joint is and the structures within a synovial joint to prevent injury - Types of freely movable joints that allow different movements and how joints differ in design to allow certain types of movement - How the major muscles and muscle groups of the body work antagonistically to affect movement in physical activity at the major movable joints. - Analysis of basic movements in sporting examples		Homework 4 – Aerobic and anaerobic exercise
	Recap Cardio-vascular System	- Identification of the pathway of air - How gaseous exchange works and the features that assist in gaseous exchange. - The structures of blood vessels, including arteries, capillaries and veins - How the structure of each bloody vessel relates to the function - The structure of the heart - The order of the cardiac cycle and the pathway of the blood - The relationship between cardiac output, stroke volume and heart rate - The mechanics of breathing and the interaction of intercostal muscles, ribs and diaphragm in breathing - Identification of tidal volume, expiratory reserve volume, inspiratory reserve volume and residual volume on a spirometer trace; and how these may change from rest to exercise		
	Aerobic and Anaerobic exercise	- Understanding the terms aerobic exercise and anaerobic exercise and their formulas - The use of aerobic and anaerobic exercise in practical examples of differing intensities - Definition of the term EPOC and understanding that EPOC caused by anaerobic exercise during vigorous exercise and producing lactic acid - The recovery process from vigorous exercise including a cool down, manipulation diet and ice baths/massage		

	Nature of Termly Test	Musco-skeletal and cardio-respiratory system		
Autumn Term 2	**Lever systems**	- First, second and third class lever systems within sporting examples, illustrating the positioning of the fulcrum, load and effort - An understanding of mechanical advantage in relation to the three lever systems - Analysis of basic movements in sporting examples		Homework 5 (Assessed) – Difference between the immediate, short term and long term effects of exercise Homework 6 – Analyse the basic sporting movements linked to each lever system
	Planes and axes of movement	- Identification of the relevant planes (frontal, transvers, sagittal) and axes (longitudinal, transverse, sagittal) of movement used whilst performing sporting actions.		Homework 7 – Planes and axes
	Components of Fitness & Fitness Testing	- Definition of the components of fitness, linking sports and physical activity to the required component of fitness. Understand why each component of fitness may or may not be needed when performing certain physical activities and sports. - Reasons for and limitations of fitness testing - Measuring the components of fitness - Demonstration of how data is collected for fitness testing		Homework 8 – Movement Analysis
	Principles of Training	- Understanding of key principles of training and how they can be applied to bring about improvements in fitness. - Application of the principles to sporting examples. - Understand the distinctions between the different types of training, the training purpose, training thresholds and training zones - Identification of the advantages and disadvantages (the effects on the body) of training types linked to specific aims		
	Recap of Short/Long Term effects of exercise, Component of Fitness and Fitness Testing, Lever Systems, Planes and Axis	- Immediate, short term and long term effects of exercise - Definition of the components of fitness, linking sports and physical activity to the required component of fitness. Understand why each component of fitness may or may not be needed when performing certain physical activities and sports. - Reasons for and limitations of fitness testing		

		- Measuring the components of fitness - Demonstration of how data is collected for fitness testing - First, second and third class lever systems within sporting examples, illustrating the positioning of the fulcrum, load and effort - An understanding of mechanical advantage in relation to the three lever systems - Analysis of basic movements in sporting examples - Identification of the relevant planes (frontal, transvers, sagittal) and axes (longitudinal, transverse, sagittal) of movement used whilst performing sporting actions.		
Spring Term 1	**Types of Training**	- Understand the distinctions between different types of training. - Circuit training – consider space available, equipment available, number of circuit stations, work:rest ratio, the content/demand of the circuit can be altered in order to improve different components of fitness. - Continuous training – sustained exercise at a constant rate (steady state) without rests, involving aerobic demand for a minimum of 20 minutes, eg running, swimming, rowing, cycling. - Fartlek training – varying speed, terrain and work:recovery ratios. Interval training/high intensity interval training – periods of exercising hard, interspersed with periods of rest or low intensity exercise. - Static stretching – a way to stretch to increase flexibility, held (isometric) for up to 30 seconds, using correct technique, advisable to avoid over stretching. - Weight training – choice of weight/exercise depends on fitness aim, eg strength/power training or muscular endurance, the importance of safe practice/lifting technique, the need for spotters. - Plyometric training – use of plyometric exercises, eg bounding, depth jumping, to increase power. Basic physiological understanding (eccentric contraction followed by larger concentric contraction).		Homework 9 – Linking the components of fitness to a sporting example of choice Homework 10 (Assessed) – Exam questions on components of fitness and principles of training Homework 11 – Create your own training programme using training zones Homework 12 – Create a booklet to demonstrate the importance of a warm up and cool down

		- Any training (and practice) method must take account of the following: • the training purpose(s), training thresholds/training targets/training zones (see calculating intensities below) • rest/recovery. - The advantages and disadvantages (the effects on the body) of each type of training method stated above. - Students should be taught to select and evaluate appropriate training methods for various (aerobic and anaerobic) fitness needs and make links to sporting activity, eg continuous training is fully appropriate to marathon runners.		
	The relationship between health and fitness and the role that exercise plays in both	- The relationship between health and fitness		
	How to optimise training and prevent injury	- Definition of training threshold. - Calculate the aerobic/anaerobic training zone: - calculate maximum heart rate (220 minus age) - calculate aerobic training zone (60–80% of maximal heart rate) - calculate anaerobic training zone (80–90% of maximal heart rate) - Considerations to prevent injury: a warm up should be completed • over training should be avoided, eg appropriate weight • appropriate clothing and footwear should be worn • taping/bracing should be used as necessary • hydration should be maintained • stretches should not be overstretched or bounce • technique used should be correct, eg lifting technique • appropriate rest in between sessions to allow for recovery - Specific training techniques – high altitude training as a form of aerobic training - Seasonal aspects		
	Warm up and cool down	- The constituent parts of warming up and cooling down		

		- Understand and justify appropriate elements of a warm up and a cool down for different sporting activities		
	Recap lesson on content from the whole half term	- **Recap lesson on content from the whole half term**		
	Termly Test	**All Paper 1 content**		
Spring Term 2	**Classification of skill**	- Definition of skills and ability - Difference between performance goals and outcome goals using appropriate performance/outcome target for sporting examples		Homework 13 – Skill classification Homework 14 (Assessed) – Evaluate the use of performance and outcome goals (9 marker) Homework 15 – Create a SMART target to optimise performance in your sport
	Goal setting	- The use and evaluation of setting performance and outcome goals in sporting examples - The use of SMART targets to improve and/or optimise performance		
	Basic information processes	- The role of each stage (input, decision making, output and feedback) of the model. - apply the basic information processing model to skills from sporting examples		
	Guidance and feedback	- Identify examples of, and evaluate, the effectiveness of the use of types of guidance, with reference to beginners and elite level performers - choose and justify which types of guidance are appropriate for beginners and/or elite level performers - Identify examples of, and evaluate, the effectiveness of the use of types of feedback, with reference to beginners and elite level performers		
	Mental preparation for performance	- Define arousal and appropriately place the inverted U in a graph with appropriate labels		

		- How optimal arousal levels vary according to the skill being performed in a physical activity or sport - How arousal can be controlled using stress management techniques before or during a sporting performance - Understand the difference between direct and indirect aggression with application to specific sporting examples - Understand the characteristics of introvert and extrovert personality types, including examples of sports which suit these particular personality types - Definition of intrinsic and extrinsic motivation, as used in sporting examples - Evaluation of the merits of intrinsic and extrinsic motivation in sport		
Summer Term 1	**Revision for end of year assessment**	-		- Homework 16 - Apply the basic information processing model to a sporting example - Homework 17 (Assessed) – Exam questions on basic information processes and guidance - Homework 18 – Reasons for intrinsic and extrinsic motivation in sport - Homework 19 – Revision questions past paper

	Nature of landmark assessment	Mental Preparation		
Summer Term 2	**Social groups in physical activity and sport**	- Engagement patterns of different social groups and the factors affecting participation - Understand factors that contribute to engagement patterns in the following social groups: • gender • race/religion/culture • age • family/friends/peers • disability.		- Homework 20 – Create a booklet to promote the engagement of social groups
	Commercialisation	- Definition of commercialisation. The relationship between sport, sponsorship and the media - Definitions of sponsorship and the media. Types of sponsorship: • financial • clothing and equipment, including footwear • facilities. - Positive and negative impacts of sponsorship and the media - Positive and negative impacts of technology		- Homework 21 (Assessed) – Technology in sport
	Ethical and socio-cultural issues in physical activity and sport	- Definitions of the following terms: • etiquette • sportsmanship • gamesmanship • contract to compete. - Categories of prohibited substances, including the basic positive effects and negative side effects: • stimulants • narcotic analgesics • anabolic agents • peptide hormones (EPO) • diuretics. - How blood doping occurs and the effects/side effects of doing it. - Which type of performers may use different types of performance enhancing drugs (PEDs) with sporting examples - The advantages and disadvantages for the performer of taking PEDs - Spectator behaviour (the positive and the negative effects of spectators at events) - Reasons why hooliganism occurs - Strategies employed to combat hooliganism/ spectator behaviour		- Homework 22 – PEDs in sport - Homework 23 – Consequences of a sedentary lifestyle
	Physical, emotional and social health, fitness and well-being	- Linking participation in physical activity, exercise and sport to health, well-being and fitness, and how exercise can suit the varying needs of different people		

	Sedentary lifestyles	- The consequences of a sedentary lifestyle - Obesity and how it may affect performance in physical activity and sport - Definitions of the following body types: • endomorph • mesomorph • ectomorph. Students should be taught to identify the most suitable body type for particular sports (or positions within a sport) and justify their choice.		
	Nature of landmark assessment	**End of year assessment**		