

## KS5 Rodillian Academy PE Curriculum Map

### Year 12 & 13 – A-Level PE

Term	Topic	Content	Knowledge
Term 1	Applied anatomy and physiology	Cardiovascular system	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>The impact of physical activity and sport on the health and fitness of the individual.</li> <li>The hormonal, neural and chemical regulation of responses during physical activity and sport.</li> <li>Receptors involved in regulation of responses during physical activity.</li> <li>Transportation of oxygen</li> <li>Venous return (mechanisms and relationship with blood pressure).</li> <li>Starling's law of the heart and cardiovascular drift.</li> <li>Arterio-venous oxygen difference (A-VO<sub>2</sub> diff).</li> </ul>
		Respiratory system	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>Lung volumes and the impact of and on physical activity and sport.</li> <li>Gas exchange systems at alveoli and muscles.</li> <li>The neural and chemical regulation of pulmonary ventilation during physical activity and sport.</li> <li>Receptors involved in the regulation of pulmonary ventilation during physical activity (chemoreceptor, proprioceptor and baroreceptors).</li> <li>Impact of poor lifestyle choices on the respiratory system.</li> </ul>
	Skill Acquisition	Skill, skill continuums & transfer	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>Characteristics of skill and the use of skill continua.</li> <li>Justification of skill placement on each of the continua.</li> <li>Transfer of learning and how transfer of learning impacts on skill development.</li> </ul>
		Impact of skill classification on structure of practice for learning	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>Methods of presenting practice (whole, progressive-part and whole-part-whole).</li> <li>Types of practice (massed, distributed, variable and mental practice).</li> <li>How knowledge of skill classification informs practice structure (presentation and type) to allow learning/development of skills.</li> </ul>
		Principles and theories of learning and performance	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>Stages of learning and how feedback differs between the different stages of learning.</li> <li>Learning plateau (causes and solutions).</li> <li>Insight learning (Gestalt), operant conditioning (Skinner), observational learning (Bandura) and social development theory (Vygotsky)</li> <li>How theories of learning impact on skill development.</li> </ul>
		Guidance and feedback	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>Methods of guidance (verbal, visual, manual and mechanical).</li> <li>The different purposes and types of feedback (knowledge of performance and results, positive, negative, intrinsic and extrinsic).</li> <li>How feedback and guidance impacts on skill development.</li> </ul>

		General information processing model	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>• Input (senses, receptors, proprioception, perception, DCR process, selective attention).</li> <li>• Decision making (short and long term memory).</li> <li>• Baddeley and Hitch working memory model memory system.</li> <li>• Output and feedback.</li> </ul>
	Sports psychology	Aspects of personality	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>• Understanding of the nature vs nurture debate in the development of personality.</li> <li>• Interactionist perspective (Hollander, Lewin).</li> <li>• How knowledge of interactionist perspective can improve performance.</li> </ul>
		Attitudes	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>• Triadic model (components and formation of attitudes, changing attitudes).</li> </ul>
		Arousal	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>• Theories of arousal.</li> <li>• Practical applications of theories of arousal and their impact on performance.</li> <li>• Characteristics of peak flow experience.</li> </ul>
		Anxiety	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>• Types of anxiety (somatic, cognitive, competitive trait and state).</li> <li>• Advantages and disadvantages of using observations, questionnaires and physiological measures to measure anxiety.</li> </ul>
		Aggression	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>• Difference between aggression and assertive behaviour.</li> <li>• Theories of aggression.</li> <li>• Strategies to control aggression.</li> </ul>
Term 2	Applied anatomy and physiology	Neuromuscular system	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>• Characteristics and functions of different muscle fibre types for a variety of sporting activities (type I, type IIx and type IIa).</li> <li>• Sympathetic and parasympathetic nervous systems.</li> <li>• Role of proprioceptors in PNF (muscle spindles and golgi tendon organs).</li> <li>• The recruitment of muscle fibres (motor units, spatial and wave summation, all or none law and tetanic).</li> </ul>
		Musculo-skeletal system	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>• Joint actions in the sagittal plane/transverse axis, frontal plane/sagittal axis and transverse plane/longitudinal axis</li> <li>• Types of joint, articulating bones, main agonists and antagonists, types of muscle contraction (isotonic and isometric).</li> </ul>
		Energy systems	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>• Energy transfer in the body.</li> <li>• Energy continuum of physical activity.</li> <li>• Energy transfer during short duration/high intensity exercise.</li> <li>• Energy transfer during long duration/lower intensity exercise.</li> <li>• Factors affecting VO2 max/aerobic power.</li> <li>• Measurements of energy expenditure.</li> <li>• Impact of specialist training methods on energy systems.</li> </ul>

	Skill Acquisition	Efficiency of information processing	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>Applying Whiting's information processing model to a range of sporting contexts.</li> <li>Information processing terms within a sporting context.</li> <li>Definitions of and the relationship between reaction time, response time, movement time.</li> <li>Factors affecting response time (hicks law, PRP and single channel hypothesis) and strategies to improve response time.</li> <li>Definitions of anticipation (temporal and spatial).</li> <li>Schmidts schema theory and application of scheme theory in sporting situations.</li> <li>Strategies to improve information processing.</li> </ul>
	Sports psychology	Motivation	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>Intrinsic, extrinsic, tangible and intangible.</li> </ul>
		Achievement motivation theory	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>Atkinson's Model of achievement motivation.</li> <li>Characteristics of personality components of achievement motivation (Nach and Naf).</li> <li>Impact of situational component of achievement motivation.</li> <li>Achievement goal theory.</li> <li>Strategies to develop approach behaviours leading to improvements in performance.</li> </ul>
		Social facilitation	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>Social facilitation and inhibition (Zajonc's model).</li> <li>Evaluation apprehension.</li> <li>Strategies to eliminate the adverse effects of social facilitation and social inhibition.</li> </ul>
		Group dynamics	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>Group formation (Tucks formation).</li> <li>Cohesion (Task and social).</li> <li>Steiner's model of potential and actual productivity, faulty group processes.</li> <li>Ringelmann effect and social loafing.</li> <li>Strategies to improve cohesion, group productivity and overcome social loafing to enhance team performance.</li> </ul>
		Goal setting	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>Benefits of types of goal setting (outcome, performance related and process goals).</li> <li>Principles of effective goal setting (SMARTER).</li> </ul>
Term 3	Exercise physiology	Diet and nutrition	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>Understand the exercise-related function of food classes.</li> <li>Positive and negative effects of dietary supplements/manipulation on the performer.</li> </ul>
		Preparation & training methods	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>Understanding of the key terms relating to laboratory conditions and field tests.</li> <li>Physiological effects and benefits of a warm-up and cool down.</li> <li>Principles of training.</li> <li>Application of principles of periodisation.</li> <li>Training methods to improve physical fitness and health.</li> </ul>
		Injury prevention	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>Types of injury (acute and chronic).</li> <li>Different methods used in injury prevention, rehabilitation and recovery.</li> <li>Physiological reasons for methods used in injury rehabilitation.</li> <li>Importance of sleep and nutrition for improved recovery.</li> </ul>
	Sports psychology	Attribution theory	<b>Pupils will gain an understanding of:</b>

			<ul style="list-style-type: none"> <li>• Attribution process</li> <li>• Weiners model and its application to sporting situations.</li> <li>• Link between attribution, task persistence and motivation.</li> <li>• Self-serving bias, attribution retraining and learned helplessness.</li> <li>• Strategies to avoid learned helplessness leading to improvements in performance.</li> </ul>
		Self-efficacy and confidence	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>• Characteristics of self-efficacy, self-confidence and self-esteem.</li> <li>• Bandura's Model of self-efficacy.</li> <li>• Vealey's Model of self-confidence.</li> <li>• Effects of home field advantage.</li> <li>• Strategies to develop high levels of self-efficacy leading to improvements in performance.</li> </ul>
		Leadership	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>• Characteristics of effective leaders.</li> <li>• Styles of leadership (autocratic, democratic, laissez-faire).</li> <li>• Leadership styles for different sporting situations).</li> <li>• Prescribed and emergent leaders.</li> <li>• Theories of leadership in different sporting situations.</li> </ul>
		Stress management	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>• Expression of the terms 'stress' and 'stressor'.</li> <li>• Use of warm up for stress management.</li> <li>• Effects of cognitive and somatic techniques on the performer.</li> <li>• Cognitive and somatic techniques.</li> </ul>
	Sport & society	Pre-industrial	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>• Characteristics of society and impact on sporting recreation.</li> <li>• Characteristics of sporting recreation (limited to mob football and real tennis).</li> </ul>
Term 4	Biomechanics	Biomechanical principles	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>• Newton's Three Laws of linear motion applied to sporting movements.</li> <li>• Definitions, equations and units of example scalars (speed, distance).</li> <li>• Centre of mass.</li> <li>• Factors affecting stability.</li> </ul>
		Levers	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>• Three classes of lever and examples of their use in the body during physical activity and sport.</li> <li>• Mechanical advantage and mechanical disadvantage of each class of lever.</li> </ul>
		Linear motion	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>• An understanding of the forces acting on a performer during linear motion.</li> <li>• Definitions, equations and units of vectors and scalars.</li> <li>• The relationship between impulse and increasing and decreasing momentum in sprinting through the interpretation of force/time graphs.</li> </ul>
		Angular motion	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>• Application of Newton's laws to angular motion</li> <li>• Definitions and units for angular motion.</li> <li>• Conservation of angular momentum during flight, moment of inertia and its relationship with angular velocity.</li> </ul>

	Sport & society	Industrial & post industrial	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>Characteristics and impact on sport (limited to development of association football, lawn tennis, rationalisation of track and field events and the role of the Wenlock Olympic Games).</li> </ul>
		Post World War 2	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>Characteristics and impact of the Golden Triangle (limited to development of association football, tennis and athletics).</li> <li>The changing status of amateur and professional performers (limited to development of association football, tennis and athletics).</li> <li>Factors affecting the emergence of elite female performers in football (players and officials), tennis and athletics in late 20th and early 21st century.</li> </ul>
		Sociological theory	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>The key terms relating to the study of sport and their impact on equal opportunities in sport and society.</li> <li>Social action theory in relation to social issues in physical activity and sport.</li> <li>Underrepresented groups in sport.</li> <li>The key terms relating to equal opportunities.</li> <li>The barriers to participation in sport and physical activity and possible solutions to overcome them for underrepresented groups in sport.</li> <li>Benefits of raising participation.</li> <li>The interrelationship between Sport England, local and national partners to increase participation at grass roots level and underrepresented groups in sport.</li> </ul>
	Sport & society and the role of technology	Concepts of physical activity and sport	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>The characteristics and functions of key concepts and how they create the base of the sporting development continuum.</li> <li>The similarities and the differences between these key concepts.</li> </ul>
		Development of elite performers in sport	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>The factors required to support progression from talent identification to elite performance.</li> <li>The generic roles, purpose and the relationship between organisations in providing support and progression from talent identification through to elite performance.</li> <li>The support services provided by National Institutes of Sports for talent development.</li> <li>The key features of UK Sport's World Class Performance Programme, Gold Event Series and Talent Identification and Development.</li> </ul>
		Ethics in sport	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>The key terms relating to ethics in sport.</li> <li>Positive and negative forms of deviance in relation to the performer.</li> </ul>
		Violence in sport	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>The causes and implications of violence in sport (performer, spectator and sport).</li> <li>Strategies for preventing violence within sport to the performer and spectator.</li> </ul>
		Drugs in sport	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>The social and psychological reasons behind elite performers using illegal drugs and doping methods to aid performance.</li> <li>The physiological effects of drugs on the performer and their performance.</li> <li>The positive and negative implications to the sport and the performer of drug taking.</li> <li>Strategies for elimination of performance enhancing drugs in sport.</li> <li>Arguments for and against drug taking and testing.</li> </ul>
	Term 5	Biomechanics	<b>Pupils will gain an understanding of:</b>
		Projectile motion	<b>Pupils will gain an understanding of:</b>

			<ul style="list-style-type: none"> <li>• Factors affecting horizontal displacement of projectiles.</li> <li>• Factors affecting flight paths of different projectiles.</li> <li>• Vector components of parabolic flight.</li> </ul>
		Fluid mechanics	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>• Dynamic fluid force (drag and lift).</li> <li>• Factors that reduce and increase drag and their application to sporting situations.</li> <li>• The Bernoulli principle applied to sporting situations.</li> </ul>
	Sport & society and the role of technology	Sport and the law	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>• The uses of sports legislation.</li> </ul>
		Impact of commercialisation	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>• The positive and negative impact of commercialisation, sponsorship and the media.</li> </ul>
		Role of technology	<b>Pupils will gain an understanding of:</b> <ul style="list-style-type: none"> <li>• Understanding of technology for sports analytics.</li> <li>• Functions of sports analytics.</li> <li>• The development of equipment and facilities in physical activity and sport, and their impact on participation and performance.</li> <li>• The role of technology in sport and its positive and negative impacts.</li> </ul>
	Performance analysis assessment (analysis and evaluation)		Students are required to analyse and evaluate, using appropriate theoretical content included in the specification, a performance as either player/performer or coach, in one activity from the specification. Students can analyse and evaluate their own performance or the performance of another, as long as it is in an activity that is from the specification.