

## Physiological factors Affecting Performance Roadmap Year 13

<b>Curriculum Intention</b>	Studying A Level PE will equip you with both a depth and breadth of knowledge, understanding and skills relating to; scientific, socio-cultural and practical aspects of physical education. On this course, you will develop theoretical knowledge and understanding of the factors that underpin physical activity in sport and use this knowledge to improve performance. As part of the course, you will also understand how physical activity contributes to health and fitness. Our aim is that you will improve as effective and independent learners and become critical and reflective thinkers with curious and enquiring minds.	
<b>Aims and Objectives for Physiological factors affecting performance &amp; NEA component</b>	<ul style="list-style-type: none"> <li>• Understand how physiological states affect performance</li> <li>• Refine their ability to perform effectively in physical activity and sport by developing skills and techniques and selecting and using tactics, strategies and/or compositional ideas</li> <li>• Develop their ability to analyse and evaluate to improve performance</li> </ul>	
<b>Time Scale</b>	<b>Assessment Procedures</b>	<b>Physiological factors Affecting Performance (01): Specification</b>
Sept - Oct H/T	<p>Peer, self and teacher assessment and assessed exam questions</p> <p style="color: green; text-align: center;">NEA Task 1</p>	<p><b><u>Unit 1.2: Preparation and training methods in relation to improving and maintaining physical activity and performance</u></b></p> <ul style="list-style-type: none"> <li>• <b>Types of strength</b> - strength endurance, maximal strength, explosive strength and static/dynamic strength.</li> <li>• <b>Factors that affect strength</b> – fibre type and cross sectional area of muscle</li> <li>• <b>Methods of evaluating</b> – grip dynamometer, 1RM, press up/ sit-up test, vertical jump test</li> <li>• <b>Training to develop strength</b> – multi-gym, weights, plyometrics and circuit/interval training focussing on work intensity, work duration, relief intervals and number of work/relief intervals.</li> <li>• <b>Physiological adaptations that occur due to strength training</b> – muscle and connective tissues, neural, metabolic</li> </ul>
Oct H/T - Xmas	<p>Peer, self and teacher assessment and assessed exam questions</p> <p style="color: green; text-align: center;">KEY ASSESSMENT 6 (7<sup>th</sup> November)</p>	<p><b><u>Unit 1.2: Preparation and training methods in relation to improving and maintaining physical activity and performance</u></b></p> <ul style="list-style-type: none"> <li>• <b>Types of flexibility</b> – static flexibility (active and passive) and dynamic flexibility</li> <li>• <b>Factors the affect flexibility</b> – type of joint, length of surrounding connective tissue, age, gender</li> <li>• <b>Methods of evaluating</b> – sit and reach and goniometer.</li> <li>• <b>Training to develop flexibility</b> – passive stretching, PNF, static, dynamic, ballistic and isometric stretching</li> <li>• <b>Physiological adaptations from flexibility training</b> – muscle and connective tissues</li> <li>• <b>Planning personal health and fitness programmes</b> – plan a personal health and fitness programme for aerobic, strength and flexibility training, including; goals, tests, types of training and time scale.</li> </ul>

<p>Xmas – Feb H/T</p>	<p>Peer, self and teacher assessment and assessed exam questions</p> <p>10 Mark Question KEY ASSESSMENT 7 (11<sup>th</sup> January)</p> <p>NEA Task 2</p>	<p><b>Unit 1.1: Energy for exercise</b></p> <ul style="list-style-type: none"> <li>• <b>ATP</b> – understand how ATP is used as ‘energy currency’</li> <li>• <b>Principles of energetically coupled reactions</b> – breakdown of ATP to ADP + P. Resynthesis of ATP from ADP + P.</li> <li>• <b>Energy systems</b> – ATP-PC system, the glycolytic system and the aerobic system.</li> <li>• <b>For each system</b> - type of reaction, chemical or food fuel used, site of the reaction, controlling enzyme, ATP yield, specific stages within the system, by-products</li> <li>• <b>Energy continuum</b> - know how the three different systems are used at varying different times during a performance in different sports.</li> <li>• <b>Predominant energy system used during exercise</b> – how intensity and duration of exercise influence which energy system is used to resynthesize ATP, interpretation of figures relating to the contribution of the three energy systems to exercise of different intensities and durations</li> <li>• <b>Interplay of energy systems during intermittent exercise</b>– intensity of exercise, duration of exercise, recovery periods and fitness levels</li> <li>• <b>How the body returns to its pre-exercise state</b> - EPOC</li> <li>• <b>Fast Alactacid component of recovery</b> – replenishment of blood and muscle oxygen stores, re-synthesis of ATP and PC</li> <li>• <b>Slow Alactacid component of recovery</b> - elevated circulation, elevated ventilation, elevated body temperature, lactate removal and conversion to glycogen</li> </ul>
<p>Feb H/T – Easter</p>	<p>Peer, self and teacher assessment and assessed exam questions</p> <p>KEY ASSESSMENT 8 (4<sup>th</sup> March)</p>	<p><b>Unit 1.2: Injury prevention and the rehabilitation of injury</b></p> <ul style="list-style-type: none"> <li>• <b>Acute injuries</b> – hard and soft tissue injuries and concussion</li> <li>• <b>Chronic injuries</b> – soft and hard tissue injuries</li> <li>• <b>Injury prevention</b> – intrinsic and extrinsic risk factors and debate surrounding effective warm up and cool down</li> <li>• <b>Assessing sporting injuries</b> – ‘SALTAPS’ (see, ask, look, touch, active, passive, strength)</li> <li>• <b>Acute management of soft tissue injuries</b> – ‘PRICE’ (protection, rest, ice, elevation)</li> <li>• <b>Recognising concussion</b> – identify concussion using the IRB’s ‘Recognise and Remove’ 6 R’s (recognise, remove, refer, rest, recover, return).</li> <li>• <b>Treatment of injury</b> – treatment for the common injuries associated with sport (fractures, joint injuries and exercise induced muscle damage). Treatments include; stretching, massage, heat, cold and contrast therapies, anti-inflammatory drugs, physiotherapy and surgery.</li> </ul>
<p>Easter – Summers Exams</p>	<p>Peer, self and teacher assessment and assessed exam questions</p>	<p><b>Unit 1.1/1.2 Revision:</b></p> <ul style="list-style-type: none"> <li>• <b>Unit 1.1</b> – Students to design and present a revision power-point for the rest of the group on one of the areas with the OCR specification; produce revision tasks for each of the areas.</li> <li>• <b>Unit 1.2</b> – Students to design and present a revision power-point for the rest of the group on one of the areas with the OCR specification; produce revision tasks for each of the areas.</li> <li>• <b>Past paper questions</b> – Complete a comprehensive set of past paper questions including a final mock within a lesson.</li> </ul>