Key Stage 4 Curriculum Map 2019 - 2020

Term 2

Subject: iGCSE Physical Education	Year: 10	
Focus/Topic	**UAE Links**	**Home Learning / Reading**
5th January 2020 **Joint Types** Examples of the different types of joints: • fixed or immovable joints / fibrous joints • slightly movable / cartilaginous joints • freely movable joints / synovial joints – ball and socket and hinge. **Joint structure and function** The structure of a synovial joint and function of its components: • synovial membrane • synovial fluid • joint (fibrous) capsule • cartilage • ligaments. **Movement at joints** Describe types of movement in physical activities: • flexion / extension • abduction / adduction • rotation • plantar flexion / dorsi flexion. Compare the range of movement and stability of ball and socket joints with hinge joints.	**What activities can we participate in the UAE to increase joint mobility?**	www.teachpe.com www.brianmac.com

12th January **Muscles** The location and role of the following muscles: latissimus dorsi, trapezius, deltoid, pectorals, biceps, triceps, abdominals, gluteals, hip flexors, hamstring group (not individual names), quadriceps group (not individual names), gastrocnemius, tibialis anterior. The role of tendons.		www.teachpe.com www.brianmac.com
19th January **Antagonistic Muscles** With reference to the shoulder, elbow, hip, knee and ankle: • the action of agonists (prime movers) and antagonists • how the muscles / muscle groups work using isotonic (concentric / eccentric) and isometric contractions. **Muscle Fibre Types** The differences between muscle fibre types (slow and fast twitch) with reference to physical activities, limited to: • force created • fatigue tolerance • aerobic/anaerobic energy supply.	**Link to core values** **Equality**	www.teachpe.com www.brianmac.com
26th January **Pathway of Air** The pathway of air into the body: • mouth/nasal passage • trachea • bronchi • bronchioles • alveoli.	**Link to core value** **reliance**	www.teachpe.com www.brianmac.com www.abacon.com/dia/exphys/home.html
2nd February **Mechanics of Breathing** • Identify and explain the characteristics of alveoli that enable gaseous exchange to occur. • The function of the diaphragm and intercostal muscles in normal breathing.		www.teachpe.com www.brianmac.com

9th February **Breathing Volumes** Describe and explain: • tidal volume • vital capacity • residual volume • minute ventilation. The effect of exercise on these volumes.	**Link to core value accountability**	www.teachpe.com www.brianmac.com
Mid Term Break		
23rd February **Components of Blood** The function of: • plasma • red blood cells • white blood cells • platelets. The role of haemoglobin in carrying oxygen and carbon dioxide. **Blood Vessels** The basic structure (wall thickness, lumen size and presence of valves) and function of: • arteries • capillaries • veins. **Structure of the Heart** The function and location of: • atria • ventricles • valves. (Valve names are **not** required.)	**Link to core value trust**	www.teachpe.com www.brianmac.com
1st March **F0unction of Heart** The pathway of blood through the heart, to include: • aorta • vena cava • pulmonary artery	**Link to core value transparency**	www.teachpe.com www.brianmac.com

• pulmonary vein. Explain the terms cardiac output, stroke volume and heart rate with reference to how cardiac output can be calculated. The effect of exercise on the heart.		
8th March **Anaerobic and Aerobic Respiration** Outline how energy can be released, summarising the equations as: • aerobic (glucose + oxygen → carbon dioxide + water) • anaerobic (glucose → lactic acid). Link duration and intensity to the use of aerobic and anaerobic respiration: • longer, low-intensity activities require aerobic • shorter, intense activities require anaerobic • examples of aerobic and anaerobic energy demands in physical activities. **Recovery** Recovery is required after exercise, with reference to: • Excess Post-exercise Oxygen Consumption (EPOC) (also known as oxygen debt) – caused by anaerobic exercise, producing lactic acid and requiring high breathing rate after exercise to remove lactic acid • factors affecting recovery time.		www.teachpe.com www.brianmac.com
15th March **Short Term Effects of Exercise** The short-term effects of exercise: • heart rate increases • breathing rate increases • red skin / heat control / sweating • fatigue (feeling tired) • suffering from nausea / feeling light-headed.		www.teachpe.com www.brianmac.com
22nd March	**Assessment Weeks**	
Spring Break		