Key Stage 5 Curriculum Map 2018-19

Autumn Term 1	Autumn Term 2	Spring term 1	Spring term 2	Summer term 1	Summer term 2
Approx: 7 weeks	Approx: 7 weeks	Approx: 6 weeks	Approx: 6 weeks	Approx: 6 weeks	Approx: 7 weeks

Autumn Term 1

Year 12 - Paper 1 – Exercise Physiology	Year 12 - Paper 2 – Sports Psychology	Year 12 - Paper 3- Contemporary issues in physical activity & sport
Skeletal and Muscular Systems 1. Joints, movements and muscles • Shoulder: - Flexion, extension, abduction, adduction, horizontal flexion/ extension, medial and lateral rotation, circumduction - Deltoid, latissimus dorsi, pectoralis major, trapezius, teres minor • Elbow: - Flexion, extension - Biceps brachii, triceps brachii • Wrist: - Flexion, extension - Wrist flexors, wrist extensors • Hip: - Flexion, extension, abduction, adduction, medial and lateral rotation - Iliopsoas, gluteus maximus, medius and minimus, adductor longus, brevis and magnus • Knee: - Flexion, extension - Hamstring group: biceps femoris, semi-membranosus, semi-tendinosus - Quadriceps group: rectus femoris, vastus lateralis, vastus intermedius and vastus medialis	***Individual Differences*** 1. Personality • Definition of personality • Theories of personality: – Trait (extroverts/introverts; stable/unstable; Type A/Type B) – Social learning – Interactionist 2. Attitudes • Definition of attitude • Factors affecting attitude formation • Components of attitude: cognitive; affective; behavioural • Methods of attitude change: persuasive communication & cognitive dissonance 3. Motivation • definitions of: intrinsic motivation &	***Emergence & Evolution of sport*** 1. Socio-cultural factors • Definition of social • Definition of cultural 2. Identify the 7 socio-cultural factors: • Social class • Gender • Time & money • Transport • Law and order • Education and literacy • Influence of public schools 3. Mob football in pre-industrial Britain • Which social class?

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• Ankle: - Dorsi flexion, plantar flexion - Tibialis anterior, soleus, gastrocnemius • Planes of movement: - frontal - transverse - sagittal 2. Functional roles of muscles and types of contraction • Roles of muscles: - agonist - antagonist - fixator • Types of contraction: - isotonic - concentric - eccentric - isometric 3. Analysis of movement • Analyse movement with reference to: - joint type - movement produced - agonist and antagonist muscles involved - type of muscle contraction taking place. 4. Skeletal muscle contraction • Structure and role of motor units in skeletal muscle contraction • Nervous stimulation of the motor unit: - motor neuron - action potential	extrinsic motivation • Uses and effects of: intrinsic motivation & extrinsic motivation 4. Arousal • Definition of arousal • Effects of arousal: drive theory; inverted U theory; catastrophe theory 5. Anxiety • Definition of anxiety • Types of anxiety: state and trait • Response to anxiety: somatic and cognitive; zone of optimal functioning. 6. Aggression • Definition of aggression • Theories of aggression: instinct; social learning; frustration-aggression hypothesis; aggressive cue hypothesis 7. Social Facilitation • Definition of social facilitation and social inhibition	• Which gender? • What about rules? (law and order /education) • When played? (availability of time) • How was it played? (availability of money, law and order, education) • Where and how often was it played? (availability of time and transport) • Give real-life examples of mob football 4. Background of popular recreation in pre-industrial Britain • Sport and pastimes reflected society and the life people at the time led. • Social class system influenced everything • Role of the church was important at the time • Peasants led a tough life and had very little free time • Drinking public houses were a hub for socialising and activities • Activities that existed at this time were: bear baiting, cock fighting, dog fighting, billiards,

- neurotransmitter - 'all or none' law. 5. Muscle contraction during exercise of differing intensities and during recovery • Muscle fibre types: - slow oxidative - fast oxidative glycolytic - fast glycolytic recruitment of different fibre types during exercise of differing intensities and during recovery.	• The effect of an audience on: introverts/extroverts; beginners/experts; simple/complex skills; gross/fine skills • Evaluative apprehension • Strategies to minimise social inhibition.	bowls and skittles. • Country pursuits such as hunting, coursing (chasing hares) and shooting were done by the upper classes. • Militaristic activities such as archery and fencing also grew at this time.

Autumn 2

Paper 1 – Exercise Physiology	**Year 12 - Paper 2 – Sports Psychology**	**Year 12 - Paper 3- Contemporary issues in physical activity & sport**
Cardiovascular and Respiratory Systems	***Group and Team Dynamics in Sport***	**Popular recreation in pre-industrial Britain**
1. Cardiovascular system at rest • The relationship between, and resting values for: - heart rate - stroke volume - cardiac output - methods of calculating the above • Cardiac cycle: - diastole - systole • Conduction system of the heart linked to the	1. The formation of groups and sports teams using stages of group development: • forming • storming • norming • performing 2. Steiner's model of group effectiveness	• **Natural/simple:** lack of technology, lack of purpose-built facilities, lack of money for majority of population. • **Rural:** Prior to industrial revolution, Britain was mainly rural and agricultural. • **Simple unwritten rules:** organisation was basic, literacy was poor and results and rules were passed on by word of mouth, no NGBs had been

cardiac cycle.

2. Cardiovascular system during exercise of differing intensities and during recovery
- Effects of different exercise intensities and recovery on:
- heart rate
- stroke volume
- cardiac output
- methods of calculating the above
- Redistribution of cardiac output during exercise of differing intensities and during recovery:
- vascular shunt mechanism
- role of the vasomotor centre
- role of arterioles
- role of pre-capillary sphincters
- mechanisms of venous return during exercise of differing intensities and during recovery regulation of heart rate during exercise:
- neural factors
- hormonal factors
- intrinsic factors.

3. Respiratory system at rest
- Relationship between resting values for:
- breathing frequency
- tidal volume
- minute ventilation
- Methods of calculating the above mechanics of breathing at rest and the muscles involved:
- diaphragm
- external intercostals
- at the alveoli

3. Ringelmann effect and social loafing.

Leadership in Sport

1. Characteristics of effective leaders

2. Emergent or prescribed leaders

3. Leadership styles;
   - autocratic
   - democratic
   - laissez-faire

4. Theories of leadership;
   - trait perspective
   - social learning
   - interactionist

5. Chelladurai's multi-dimensional model of sports leadership.

formed.

- **Local:** Limited transport and communication meant that sport had to be local. It wasn't until newspapers were created that sport became widely advertised and promoted.
- **Cruel/violent:** reflected harshness of society at time.
- **Occasional:** generally took part as part of holy days, village fairs or Christmas celebrations.
- **Courtly:** affected by the two class system.
- **Occupational:** work often became the basis for sport. E.g. competitive rowing came out of Thames ferryman racing
- **Wagering:** was an obsession. For wealthy, betting was a display of financial and social status.

Post-1850 Industrial Britain

1. Social class
   - Upper/lower vs. upper/middle/working
   - Professionalism & amateurs
2. Time & transport

- at the muscles. 4. Respiratory system during exercise of differing intensities and during recovery • Effects of differing intensities of exercise and recovery on: - breathing frequency - tidal volume - minute ventilation • Mechanics of breathing during exercise of differing intensities and during recovery, including additional muscles involved: - inspiration – sternocleidomastoid, pectoralis minor - expiration – internal intercostals, rectus abdominis. • Regulation of breathing during exercise of different intensities and during recovery - neural control - chemical control • Effect of differing intensities of exercise and recovery on gas exchange at the alveoli and at the muscles - changes in pressure gradient - changes in dissociation of oxyhaemoglobin.		• Changes • Railways 3. Sport in post-1850 industrial Britain was increasingly: • Urban • Regular • Regional • With written rules • More controlled/sophisticated/respectable • Less wagering 4. Gender: changing status of women. 5. Availability of money 6. Law and order 7. Education and literacy

Key Stage 5 Curriculum Map 2018-19

Spring 1

Paper 1 – Exercise Physiology	**Year 12 - Paper 2 – Skill Acquisition**	**Year 12 - Paper 3- Contemporary issues in physical activity & sport**
Energy for Exercise 1. Adenosine Triphosphate (ATP) and energy transfer • ATP as 'energy currency' • Principle of energetically coupled reactions: - breakdown of ATP to ADP (Adensosine Diphosphate) + P (phosphate) - resynthesis of ATP from ADP + P. 2. Energy systems and ATP resynthesis • Energy systems: - ATP-PC (Phosphocreatine) system - glycolytic system - aerobic system • For each system: - type of reaction (aerobic or anaerobic) - chemical or food fuel used - specific site of the reaction - controlling enzyme - ATP yield - specific stages within the system - by-products 3. ATP resynthesis during exercise of differing	***Classification of skills*** • Justification of placement of skills on continua: - difficulty (simple/complex) - environmental influence (open/closed) - pacing (self-paced/externally paced) - muscular involvement (gross/fine) - continuity (discrete/serial/continuous) - organisation (low/high). ***Types and methods of practice*** 1. Characteristics and uses of each: - part practice - whole practice - whole/part-whole practice - progressive/part practice - massed practice - distributed practice - fixed practice - varied practice 2. Transfer of skills • Types of transfer: - positive - negative - proactive	***Influence of public schools:*** • The promotion and organisation of sports and games. • The promotion of ethics through sports and games. • The cult of athleticism. • The spread and export of games and the game ethic. • Thomas Arnold ***20th Century Sport*** 1. Many developments took place during the 20th century in the UK: • There was a massive development of scientific and technological innovation. • Many societies became hugely rich, but wealth was still unequally shared. • There was considerable growth of cities (urbanisation).

intensitieis and durations • The energy continuum • Predominant energy system used during exercise: - how intensity and duration of exercise influence which energy system is predominantly used to resynthesise ATP - interpretation of figures relating to the contribution of the three energy systems to exercise of different intensities and durations • Interplay of energy systems during intermittent exercise and factors that affect this interplay - intensity of exercise - duration of exercise - recovery periods - fitness levels. 4. The recovery process How the body returns to its pre-exercise state: - Excess Post-exercise Oxygen Consumption (EPOC) • Fast components of EPOC, the processes that occur and the duration: - replenishment of blood and muscle oxygen stores - re-synthesis of ATP and PC • Slow components of EPOC, the processes that occur and the duration: - elevated circulation - elevated ventilation	- retroactive - bilateral • Know and understand the ways of optimising the effect of positive transfer • Know and understand the ways of limiting the effect of negative transfer. 2. Principles and theories of learning movement skills • Theories of learning: - operant conditioning - cognitive theory of learning - Bandura's theory of social/observational learning.	• Communications technology made great advances. This allowed ideas to spread rapidly and sports and pastimes to become more globalised. • There was more time for leisure, less time spent on work, and therefore more participated in sport. • Stress due to wars and terrorism, the undermining of traditional values and the rapid pace of life took a great toll on people's general health and well-being. 2. Changes in socio-cultural factors 3. Growth in spectatorship and money in sport 4. Growth in professionalism 5. Sport during the war ***<u>21st Century Sport</u>*** 1. Characteristics: • High performance sport now a global product • Highly structured • It is 'big business' involving huge investment

- elevated body temperature - lactate removal and conversion to glycogen • Effect of exercise intensity on EPOC and implications of the recovery process for planning exercise or training sessions. ***<u>Environmental Effects on Body Systems</u>*** 1. Exercise at altitude • Effect of altitude on the cardiovascular and respiratory systems: - reduced arterial PO2 (partial pressure of oxygen) leading to impaired muscle O2 delivery - elevated heart rate and ventilation • Acclimatisation, including the importance of timing arrival, at altitude (above 2400m). 2. Exercise in the heat • Effect of heat on the cardiovascular and respiratory systems: - temperature regulation - cardiovascular drift.		• Driven by media • Higher standards & expectations • Great impact of modern technology • Globalisation & commercialisation • Tighter links between sport & law • Elements of deviance & drugs 2. Social class & social mobility 3. Social class in 21st Century 4. Gender 5. Other socio-cultural factors 6. Globalisation of sport: • Definition of globalisation • Freedom of movement and greater exposure of people to sport • Possible reasons for the globalisation of sports people. 7. Media Coverage • Types of media

		• Golden triangle • Impacts of media coverage

Spring 2

Paper 1 – Exercise Physiology	**Year 12 - Paper 2 – Skill Acquisition**	**Year 12 - Paper 3- Contemporary issues in physical activity & sport**
Diet & Nutrition and their Effect on Physical Activity & Performance 1. Diet and Nutrition • Function and importance of the components of a healthy, balanced diet: - carbohydrates - proteins - fats - minerals - vitamins - fibre - water • Energy intake and expenditure and energy balance in physical activity and performance. 2. Ergogenic aids • Use of ergogenic aids; potential benefits and	***Principles and theories of learning movement skills*** • Theories of learning: - operant conditioning; - cognitive theory of learning - Bandura's theory of social/observational learning ***Stages of learning*** • Characteristics of the stages of learning: - cognitive - associative - autonomous.	***Global sporting events:*** 1. The modern Olympic games: • History • Philosophy • Pierre de Coubertin • Aims of Olympic games and values • British Olympic Association • The Paralympics 2. Politic exploitation of the Olympic games: • Berlin 1936 – Third Reich Ideology

risks: ○ pharmacological aids: – anabolic steroids – erythropoietin (EPO) – human growth hormone (HGH) ○ physiological aids: – blood doping, – intermittent hypoxic training (IHT) – cooling aids ○ nutritional aids: – amount of food – composition of meals – timing of meals – hydration – glycogen/carbohydrate loading – creatine – caffeine – bicarbonate – nitrate.		• Mexico City 1968 – 'Black Power' demonstration • Munich 1972 – Palestinian terrorism • Moscow 1980 – boycott led by the USA • Los Angeles 1984 – boycott by Soviet Union

Key Stage 5 Curriculum Map 2018-19

Summer 1

Paper 1 – Exercise Physiology	**Year 12 - Paper 2 – Skill Acquisition**	**Year 12 - Paper 3- Contemporary issues in physical activity & sport**
Preparation & Training Methods in Relation to Improving and Maintaining Physical Activity & Performance 1. Aerobic Training • Aerobic capacity and maximal oxygen uptake (VO2max) • How VO2max is affected by: - individual physiological make-up - training - age - gender • Methods of evaluating aerobic capacity: - laboratory test of VO2max using direct gas analysis - NCF multi-stage fitness test - Queen's College step test - Cooper 12-minute run • Intensity and duration of training used to develop aerobic capacity: - continuous training - high intensity interval training (HIIT) - the use of target heart rates as an intensity guide • Physiological adaptations from aerobic training: - cardiovascular - respiratory - muscular	***Guidance*** • Types and uses of guidance: - verbal guidance - visual guidance - manual guidance - mechanical guidance • Advantages and disadvantages of using each type of guidance. ***Feedback*** • Types and uses of feedback: - intrinsic - extrinsic - positive - negative - knowledge of performance - knowledge of results • Advantages and disadvantages of using each type of feedback. ***Memory models*** • Atkinson and Shiffren's multi-store memory model - use of selective attention	***Hosting Global sporting events:*** 1. The impacts of hosting a global sports events on the host country/city ○ Sporting impacts ○ Social impacts ○ Economic impacts ○ Political impacts ***Revision***

- metabolic • Activities and sports in which aerobic capacity is a key fitness component. 2. Strength training • Types of strength: - strength endurance - maximum strength - explosive/elastic strength - static and dynamic strength • Factors that affect strength: - fibre type - cross sectional area of the muscle • Methods of evaluating each type of strength: - grip strength dynamometer - 1 Repetition Maximum(1RM) - press up or sit-up test - vertical jump test • Training to develop strength: - repetitions - sets - resistance guidelines used to improve each type of strength - use of multi-gym - weights - plyometrics - circuit/interval training: – work intensity – work duration – relief interval – number of work/relief intervals • Physiological adaptations from strength training: - muscle and connective tissues - neural - metabolic	• Craik and Lockhart's levels of processing model • Relate both models to learning and performing physical activity skills. ***<u>Revision</u>***	

• Activities and sports in which strength is a key fitness component. 3. Flexibility training • Types of flexibility: - static flexibility (active and passive) - dynamic flexibility • Factors that affect flexibility: - type of joint - length of surrounding connective tissue - age - gender • Methods of evaluating flexibility: - sit and reach test - goniometer • Training used to develop flexibility: - passive stretching - proprioceptive neuromuscular facilitation (PNF) - static stretching - dynamic stretching - ballistic stretching - isometric stretching • Physiological adaptations from flexibility training: • muscle and connective tissues • Activities and sports in which flexibility is a key fitness component. 4. Periodisation of training Periodisation cycles: - macrocycle - mesocycle - microcycle		

Phases of training: - Preparatory - Competitive - transition • Tapering to optimise performance • How to plan personal health and fitness programmes for aerobic, strength and flexibility training. 5. Impact of training on lifestyle diseases • The effect of training on lifestyle diseases: - cardiovascular system: – coronary heart disease (CHD) – stroke – atherosclerosis – heart attack - respiratory system – asthma – chronic obstructive pulmonary disease (COPD). ***<u>Revision</u>***		