Physical Education – A Level Physiology

Content **(Intent) Physiology**	**Links to prior learning**	**Skills and Assessment** **(Implementation)**	**Expected Learning Outcomes** **(Impact)**
Term 1-2 (Y12) Skeletal and muscular systems Cardiovascular and respiratory systems	A more in depth study of these areas that are covered in the GCSE syllabus	**Skills:** • Develop knowledge of topics concerned with the skeletal, muscular, cardiovascular and respiratory systems. • Develop application of these topics to exam questions and identification of their application in sporting scenarios. • Develop evaluation and analytical skills. • Develop ability to research topics and present them to their peers. **Assessment:** • Half term tests • Regular exam questions at the end of each topic. • Marking each others work to understand the requirements of a mark scheme. • Creation of revision resources • Student research • Presentations • Examinations • Use of exemplars	• Knowledge of the roles of the skeletal and muscular systems in the performance of movement skills in physical activities and sport. • Knowledge of the cardiovascular and respiratory systems at rest, during exercise and during recovery. • Knowledge and understanding of the recovery system and how the body returns to its pre-exercise state will also be developed. • Knowledge of these systems in relation to altitude training and exercise in the heat to show how these types of training can affect the body systems.
Terms 3-4 (Y12) Energy for Exercise	This builds on the topic of aerobic and anaerobic exercise studied at GCSE	**Skills:** • Develop knowledge of topics concerned with energy production for exercise. • Develop application of these topics to exam questions and identification of their application in sporting scenarios.	• Knowledge of Adenosine Triphosphate (ATP) used for energy and the reactions and resynthesis of ATP. • Knowledge of the different energy systems.

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		• Develop evaluation and analytical skills. • Develop ability to research topics and present them to their peers. **Assessment:** • Half term tests • Regular exam questions at the end of each topic. • Marking each others work to understand the requirements of a mark scheme. • Creation of revision resources • Student research • Presentations • Examinations • Use of exemplars	• Knowledge of the recovery process. • Knowledge of the effect of exercise intensity on excess post exercise oxygen consumption (EPOC) and implications of the recovery process for planning exercise or training sessions.
Terms 5-6 (Y12) Environmental effects on body systems.	Links to work on the body systems from term 1 and 2	**Skills:** • Develop knowledge of the environmental effects on the body systems, diet and nutrition and training methods. • Develop application of these topics to exam questions and identification of their application in sporting scenarios. • Develop evaluation and analytical skills. • Develop ability to research topics and present them to their peers. **Assessment:**	• Knowledge of the effect of altitude on the cardiovascular and respiratory systems and the performance of exercise at different intensities at altitude. • Knowledge of acclimatisation will also be developed. • Knowledge of exercise in the heat and the effect of

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Diet and nutrition and their effect on physical activity and performance Preparation and training methods in relation to improving and maintaining physical activity and performance	Links to GCSE work on Diet and Drugs Development of 'Physical Training' unit studied at GCSE	• Half term tests • Regular exam questions at the end of each topic. • Marking each others work to understand the requirements of a mark scheme. • Creation of revision resources • Student research • Presentations • Examinations • Use of exemplars • Videos • Practical experiments	heat on the cardiovascular and respiratory systems. • Knowledge of the components and functions of a balanced diet, as well as being able to relate diet, hydration and dietary supplements to performance in physical activities and sports. • Knowledge and understanding will of ergogenic aids and how they are used to improve sports performance • Knowledge of aerobic training, methods of evaluating aerobic capacity and factors affecting VO2 max. • Knowledge of strength and flexibility training. • Knowledge of the periodisation of training and how to plan personal health and fitness programmes. • Knowledge of the impact of training on lifestylerelated

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			diseases that affect the cardiovascular and respiratory systems.
Terms 7-8 (Y13) Injury prevention and rehabilitation of injury	Injury prevention at GCSE Rehab largely new information	**Skills:** • Develop knowledge of injury prevention and rehabilitation and biomechanical principles. • Develop application of these topics to exam questions and identification of their application in sporting scenarios. • Develop evaluation and analytical skills. • Develop ability to research topics and present them to their peers. **Assessment:** • Half term tests • Regular exam questions at the end of each topic. • Marking each others work to understand the requirements of a mark scheme. • Flip learning • Creation of revision resources • Student research • Presentations • Examinations • Use of exemplars • Videos • Practical experiments	• Knowledge of acute and chronic injuries related to physical activities and sports. • Knowledge of the prevention of injury by understanding the risk factors and the relative value of warm up and cool down routines used in physical activities and sports. • Knowledge of rehabilitation of injury will be understood by knowing about common sports injuries and common treatments.
Biomechanical principles, levers and the use of technology	Development of work on movement analysis at GCSE		• Knowledge of biomechanical principles related to Newton's Laws and force. • Understand how to calculate force, momentum, acceleration and weight.

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			• Knowledge of lever systems for 1st, 2nd and 3rd class levers. • knowledge and understanding of the use of technology to analyse movement and improve performance.
Terms 9-10 (Y13) Linear motion, angular motion, fluid mechanics and projectile motion	New information	**Skills:** • Develop knowledge of topics concerned with linear motion, angular motion, fluid mechanics and projectile motion. • Develop application of these topics to exam questions and identification of their application in sporting scenarios. • Develop evaluation and analytical skills. • Develop ability to research topics and present them to their peers. **Assessment:** • Half term tests • Regular exam questions at the end of each topic. • Marking each others work to understand the requirements of a mark scheme. • Powerpoints • Flip learning • Creation of revision resources	• Knowledge of, application of and calculations involving linear motion. • Knowledge of angular motion and know about the creation of angular motion through the application of an eccentric force. • Understanding of how to calculate angular motion and interpret graphs of angular velocity, moment of inertia and angular momentum. • Knowledge of fluid mechanics and the factors that impact the magnitude of air resistance (on land) or drag (in water) on a body or object.

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		• Student research • Presentations • Examinations • Use of exemplars • Videos • Practical experiments	• Knowledge of projectile motion and Bernouilli's principle.
Term 11 (y13) Revision			

Resources and/or activities to support learning