

## **Topics from the specification Year 12**

Topic
Joints
Movement at the joints
Muscles
Planes of movement
Antagonistic muscles
Types of contraction
Movement analysis
Skeletal muscle contraction
Muscle fibre types
Heart rate, cardiac output and stroke volume
Cardiac cycle and electrical control of the heart
Cardiac response to different intensities of exercise and recovery.
Respiratory system at rest (muscles and volumes)
Respiratory response to different exercise intensities and recovery.
Diet and Nutrition
Ergogenic aids
Aerobic Capacity training ( $VO_2$ max)
Strength training
Flexibility training
Periodisation
Impact of training on lifestyle diseases
Newton's laws of motion
Forces
Lever systems
Analysis of movement using technology

Centre of mass and stability
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**Topics from the specification Year 13**

Topic
Energy systems (energy for exercise)
Recovery (EPOC)
Altitude
Heat
Injury prevention and the rehabilitation of injury
Linear Motion (recap)
Angular motion
Fluid mechanics and projectile motion