

PHYSICAL EDUCATION

UNIT 3 – Movement skills and energy for physical activity, sport and exercise

This unit introduces students to principles used to analyse human movement from a biophysical perspective. Students use a variety of tools and coaching techniques to analyse movement skills and apply biomechanical and skill-acquisition principles to improve and refine movement in physical activity, sport and exercise. They use practical activities to demonstrate how correctly applying these principles can lead to improved performance outcomes.

Students consider the cardiovascular, respiratory and muscular systems and the roles of each in supplying oxygen and energy to the working muscles. They investigate the characteristics and interplay of the 3 energy systems for performance during physical activity, sport and exercise. Students explore the causes of fatigue and consider different strategies used to postpone fatigue and promote recovery.

AREAS OF STUDY

- How are movement skills improved?
- How does the body produce energy?

OUTCOMES

Outcome 1: On completion of this unit, the student should be able to analyse primary data collected from participation in physical activity, sport and exercise to develop and refine movement skills from an individual and coaching perspective, by applying biomechanical and skill-acquisition principles.

Outcome 2: On completion of this unit, the student should be able to use data collected in practical activities to analyse how the major body and energy systems work together to enable movements to occur; explain the factors causing fatigue; and recommend suitable recovery strategies.

UNIT 4 – Training to improve performance

In this unit, students' participation and involvement in physical activity will form the foundations of understanding how to improve performance from a physiological perspective. Students analyse movement skills and fitness requirements and apply relevant training principles and methods to improve performance at various levels (individual, club and elite).

Improvements in performance, in particular fitness, depend on the ability of the individual and/or coach to gain, apply and evaluate knowledge and understanding of training. Students assess fitness and use collected data to justify the selection of fitness tests based on the physiological requirements of an activity, including muscles used, energy systems and fitness components. Students then consider all physiological data, training principles and methods to design a training program. The effectiveness of programs is evaluated according to the needs of the individual and chronic adaptations to training.

AREAS OF STUDY

- What are the foundations of an effective training program?
- How is training implemented effectively to improve fitness?
- Integrated movement experiences.

OUTCOMES

Outcome 1: On completion of this unit, the student should be able to undertake an activity analysis to justify the physiological requirements of an activity that informs an appropriate assessment of fitness.

Outcome 2: On completion of this unit, the student should be able to participate in a variety of training methods; design and evaluate training programs; and explain performance improvements that occur due to chronic adaptations, depending on the type of training undertaken.

Outcome 3: On completion of this unit, the student should be able to integrate theory and practice that enables them to analyse the interrelationships between skill acquisition, biomechanics, energy production and training, and the impacts these have on performance