

**Unit Title:** Anatomy And Physiology For Exercise And Health  
**Unit Level:** Level 3  
**Unit Credit Value:** 6  
**GLH:** 43  
**LASER Unit Code:** WJE856  
**Ofqual Unit Code:** D/507/1550

This unit has 6 learning outcomes.

LEARNING OUTCOMES		ASSESSMENT CRITERIA	
<b>The learner will:</b>		<b>The learner can:</b>	
1.	Understand the heart and circulatory system and its relation to exercise and health.	1.1	Explain the function of the heart valves.
		1.2	Describe coronary circulation.
		1.3	Explain the effect of disease processes on the structure and function of blood vessels.
		1.4	Explain the short and long term effects of exercise on blood pressure, including the valsalva effect.
		1.5	Explain the cardiovascular benefits and risks of endurance/aerobic training.
		1.6	Define blood pressure classifications and associated health risks.
2.	Understand the musculoskeletal system and its relation to exercise.	2.1	Explain the cellular structure of muscle fibres.
		2.2	Describe the sliding filament theory.
		2.3	Explain the effects of different types of exercises on muscle fibre type.
		2.4	Identify and locate the muscle attachment sites for the major muscles of the body.
		2.5	Name, locate and explain the function of skeletal muscle involved in physical activity.
		2.6	Identify the anatomical axis and planes with regard to joint actions and different exercises.
		2.7	Explain the joint actions brought about by specific muscle group contractions.
		2.8	Describe joints/joint structure with regard to range of motion/movement and injury risk.
		2.9	Describe joint movement potential and joint actions.

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3.	Understand postural and core stability.	3.1	Describe the structure and function of the stabilising ligaments and muscles of the spine.
		3.2	Describe local muscle changes that can take place due to insufficient stabilisation.
		3.3	Explain the potential effects of abdominal adiposity and poor posture on movement efficiency.
		3.4	Explain the potential problems that can occur as a result of postural deviations.
		3.5	Explain the impact of core stabilisation exercise and the potential for injury/aggravation of problems.
		3.6	Explain the benefits, risks and applications of the following types of stretching: a) static (passive and active) b) dynamic c) proprioceptive neuromuscular facilitation (PNF).
4.	Understand the nervous system and its relation to exercise.	4.1	Describe the specific roles of the: a) Central Nervous System (CNS) b) Peripheral Nervous System (PNS) including somatic and autonomic systems.
		4.2	Describe nervous control and transmission of a nervous impulse.
		4.3	Describe the structure and function of a neuron.
		4.4	Explain the role of a motor unit.
		4.5	Explain the process of motor unit recruitment and the significance of a motor unit's size and number of muscle fibres.
		4.6	Explain the function of muscle proprioceptors and the stretch reflex.
		4.7	Explain reciprocal inhibition and its relevance to exercise.

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		4.8	Explain the neuromuscular adaptations associated with exercise/training.
		4.9	Explain the benefits of improved neuromuscular coordination/efficiency to exercise performance.
5.	Understand the endocrine system and its relation to exercise and health.	5.1	Describe the functions of the endocrine system.
		5.2	Identify the major glands in the endocrine system.
		5.3	Explain the function of hormones to include: a) growth hormone b) thyroid hormones c) corticosteroids d) catecholamines e) insulin f) glucagon.
6.	Understand energy systems and their relation to exercise.	6.1	Identify the contribution of energy according to: a) duration of exercise/activity being performed b) type of exercise/activity being performed c) intensity of exercise/activity being performed.
		6.2	Identify the by-products of the three energy systems and their significance in muscle fatigue.
		6.3	Describe the effect of endurance training/advanced training methods on the use of fuel for exercise.

<b>Assessment Guidance:</b>
NA

<b>Additional Information:</b>
NA