

APPLY HUMAN ANATOMY AND PHYSIOLOGY PRINCIPLES

UNIT CODE: 0914441 08A

TVET CDACC UNIT CODE: ENG/OS/MDE/CC/03/5/MA

UNIT DESCRIPTION:

This unit specifies the competencies required to Apply Human Anatomy and Physiology Principles. Competencies include: Applying knowledge of Basics of Human Anatomy and Physiology, Applying Musculoskeletal System knowledge, Applying Cardiovascular System knowledge, Applying Respiratory System knowledge, Applying Digestive System knowledge, Applying Urinary System knowledge, Applying Nervous System knowledge, Applying Reproductive System knowledge, Applying dental anatomy knowledge, Applying Special Sensory Organs knowledge and Applying basic patient care and medical ethics knowledge.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
These describe the key outcomes which make up workplace function.	These are assessable statements which specify the required level of performance for each of the elements. <i>Bold and italicized terms are elaborated in the Range</i>
1. Apply Basics of Human Anatomy and Physiology	1.1 <i>Medical terminology</i> knowledge is applied as per work requirement. 1.2 Human body compartments are identified as per work requirement 1.3 Human body cells, tissues and organ knowledge is applied as per work requirement
2. Apply Special Sensory Organ knowledge	2.1 <i>Eye Anatomy and Physiology</i> knowledge is applied as per work requirement 2.2 <i>Ear Anatomy and Physiology</i> knowledge is applied as per work requirement

	<p>2.3 Nose Anatomy and Physiology knowledge is applied as per work requirement</p> <p>2.4 Sensory Organ disorder knowledge is applied as per work requirement.</p>
3. Apply Musculoskeletal System knowledge	<p>3.1 <i>Bone Anatomy and Physiology</i> knowledge is applied as per work requirement</p> <p>3.2 <i>Muscle Anatomy and Physiology</i> knowledge is applied as per work requirement</p> <p>3.3 Musculoskeletal disorder knowledge is applied as per work requirement.</p>
4. Apply Cardiovascular System knowledge	<p>4.1 <i>Heart Anatomy and Physiology</i> knowledge is applied as per work requirement</p> <p>4.2 <i>Blood circulation knowledge</i> is applied as per work requirement.</p> <p>4.3 Cardiovascular disorder knowledge is applied as per work requirement.</p>
5. Apply Respiratory System knowledge	<p>5.1 <i>Respiratory System Anatomy and Physiology</i> knowledge is applied as per work requirement</p> <p>5.2 Respiration process knowledge is applied as per work requirement.</p> <p>5.3 Respiratory disorder knowledge is applied as per work requirement.</p>
6. Apply Digestive System knowledge	<p>6.1 <i>Digestive System Anatomy and Physiology</i> knowledge is applied as per work requirement</p> <p>6.2 Digestive process knowledge is applied as per work requirement.</p> <p>6.3 Digestive disorder knowledge is applied as per work requirement.</p>
7. Apply Urinary System knowledge	<p>7.1 <i>Kidney Anatomy and Physiology</i> knowledge is applied as per work requirement</p> <p>7.2 Urinary process knowledge is applied as per work requirement.</p> <p>7.3 Urinary disorder knowledge is applied as per work requirement.</p>

8. Apply Nervous System knowledge	<p>8.1 Knowledge of cells and tissues of nervous system is applied as per work requirement.</p> <p>8.2 <i>Nervous System Anatomy and Physiology</i> knowledge is applied as per work requirement</p> <p>8.3 Nervous disorder knowledge is applied as per work requirement.</p>
9. Apply Reproductive System knowledge	<p>9.1 <i>Female Reproductive Anatomy and Physiology</i> knowledge is applied as per work requirement</p> <p>9.2 <i>Male Reproductive Anatomy and Physiology</i> knowledge is applied as per work requirement</p> <p>9.3 Human development process knowledge is applied as per work requirement.</p> <p>9.4 Reproductive disorder knowledge is applied as per work requirement.</p>
10. Apply dental anatomy knowledge	<p>10.1 The tooth and buccal cavity are sketched and labelled as per work requirement</p> <p>10.2 Common dental disease and disorders are identified as per work requirement</p> <p>10.3 Dental diagnostic and therapeutic measures and equipment are identified as per work requirement</p>
11. Apply basic patient care and medical ethics knowledge	<p>11.1 Basic patient care knowledge is applied as per work requirement</p> <p>11.2 Medical ethics knowledge is applied as per work requirement.</p> <p>11.3 Code of practice knowledge is adhered to as per work requirement.</p>

RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Variable	Range
1. Medical terminologies	<ul style="list-style-type: none"> • Directional terms • Regional terms • Body and plane sections • Terms of motion • Body cavities
2. Bone Anatomy and Physiology include but not limited to:	<ul style="list-style-type: none"> • Functions of bones • Types of bones • Bone structure • Microscopic structure of bone • Development of bone tissue • Healing of bone • Types of skeletons • Types of joints
3. Muscle Anatomy and Physiology include but not limited to:	<ul style="list-style-type: none"> • Organization of skeletal muscle • The neuromuscular junction • Action of skeletal muscle • Principal skeletal muscles
4. Heart Anatomy and Physiology include but not limited to:	<ul style="list-style-type: none"> • Position • Structure • Flow of blood through the heart • Blood supply to the heart (the coronary circulation) • Conducting system of the heart • The cardiac cycle • Cardiac output
5. Blood circulation knowledge include but not limited to:	<ul style="list-style-type: none"> • Blood pressure • Types of blood circulations • Fetal circulation

<p>6. Respiratory System</p> <p>Anatomy and Physiology include but not limited to:</p>	<ul style="list-style-type: none"> • Nose and nasal cavity • Pharynx • Larynx • Trachea • Lungs • Bronchi and bronchioles • Respiratory bronchioles and alveoli • Respiration processes
<p>7. Digestive System</p> <p>Anatomy and Physiology include but not limited to:</p>	<ul style="list-style-type: none"> • The digestive tract • Pancreas • Liver • Biliary tract • Bile ducts Gall bladder • Digestive processes
<p>8. Kidney Anatomy and Physiology include but not limited to:</p>	<ul style="list-style-type: none"> • Gross structure of the kidney • Microscopic structure of the kidney • Functions of the kidney • Ureters • Urinary bladder • Urethra • Urinary processes
<p>9. Nervous System</p> <p>Anatomy and Physiology include but not limited to:</p>	<ul style="list-style-type: none"> • Cells and Tissues of Nervous System • The meninges and cerebrospinal fluid (CSF) • The meninges • Central nervous system • Brain • Spinal cord • Peripheral nervous system • Autonomic nervous system

10. Female Reproductive Anatomy and Physiology include but not limited to:	<ul style="list-style-type: none"> ● External genitalia (vulva) ● Internal genitalia ● Breasts ● Puberty in the female ● The reproductive cycle
11. Male Reproductive Anatomy and Physiology include but not limited to:	<ul style="list-style-type: none"> ● Scrotum ● Testes ● Seminal vesicles ● Ejaculatory ducts ● Prostate gland ● Urethra and penis
12. Eye Anatomy and Physiology include but not limited to:	<ul style="list-style-type: none"> ● Structure ● Physiology of sight
13. Ear Anatomy and Physiology include but not limited to:	<ul style="list-style-type: none"> ● Structure ● Physiology of hearing

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit of competency.

Required Skills

The individual needs to demonstrate the following skills:

- Drawing/sketching skills
- Problem solving
- Critical thinking
- Report writing

- Record keeping

Required Knowledge

The individual needs to demonstrate knowledge of:

- Medical terminologies
- Human body systems
- Functions of the human body organs
- Hospital hygiene
- Vital body organs
- Medical ethics and codes of practice
- Medical equipment

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

1. Critical Aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <p>1.1 Applied Basics of Human Anatomy and Physiology knowledge as per work requirement.</p> <p>1.2 Applied Musculoskeletal System anatomy and physiology knowledge as per work requirement</p> <p>1.3 Applied Cardiovascular System anatomy and physiology knowledge as per work requirement</p> <p>1.4 Applied respiratory system anatomy and physiology knowledge as per work requirement</p> <p>1.5 Applied Digestive system anatomy and physiology knowledge as per work requirement</p>
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	<p>1.6 Applied Urinary system anatomy and physiology knowledge as per work requirement</p> <p>1.7 Applied nervous system anatomy and physiology knowledge as per work requirement</p> <p>1.8 Applied reproductive system anatomy and physiology knowledge as per work requirement</p> <p>1.9 Applied dental anatomy and physiology knowledge as per work requirement</p> <p>1.10 Applied special sensory organ knowledge as per work requirement</p> <p>1.11 Applied human body disorder knowledge as per work requirement.</p> <p>1.12 Applied Basic patient care and medical ethics knowledge as per work requirement.</p>
2. Resource Implications	<p>The following resources must be provided:</p> <p>2.1 Access to relevant workplace or appropriately simulated environment where assessment can take place</p> <p>2.2 Materials relevant to the proposed activity or tasks</p>
3. Methods of Assessment	<p>Competency may be assessed through:</p> <p>3.1 Observation</p> <p>3.2 Oral presentation</p> <p>3.3 Projects</p> <p>3.4 Written tests</p>
4. Context of Assessment	<p>Competency may be assessed individually in the actual workplace or Simulated work place.</p>
5. Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>