APPLIED ANATOMY

PLACEMENT: I SEMESTER

THEORY: 3 Credits (60 hours)

DESCRIPTION: The course is designed to assists student to recall and further acquire the knowledge of the normal structure of human body, identify alteration in anatomical structure with emphasis on clinical application to practice nursing.

COMPETENCIES: On completion of the course, the students will be able to

1. Describe anatomical terms.
2. Explain the general and microscopic structure of each system of the body.
3. Identify relative positions of the major body organs as well as their general anatomic locations.
4. Explore the effect of alterations in structure.
5. Apply knowledge of anatomic structures to analyze clinical situations and therapeutic applications.

COURSE OUTLINE

T – Theory

Unit	Time (Hrs)	Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
I	8 (T)	Define the terms relative to the anatomical position	**Introduction to anatomical terms and organization of the human body** • Introduction to anatomical terms relative to position – anterior, ventral, posterior dorsal, superior, inferior, median, lateral, proximal, distal, superficial, deep, prone, supine, palmar and plantar	• Lecture cum Discussion • Use of models • Video demonstration	• Quiz • MCQ • Short answer
		Describe the anatomical planes	• Anatomical planes (axial/ transverse/ horizontal, sagittal/vertical plane and coronal/frontal/oblique plane)	• Use of microscopic slides	
		Define and describe the terms used to describe movements	• Movements (flexion, extension, abduction, adduction, medial rotation, lateral rotation, inversion, eversion, supination, pronation, plantar flexion, dorsal flexion and circumduction	• Lecture cum Discussion • Video/Slides	
		Organization of human body and structure of cell, tissues membranes and glands	• Cell structure, Cell division • Tissue – definition, types, characteristics, classification, location • Membrane, glands – classification and structure • Identify major surface and bony landmarks in each body region, Organization of human body	• Anatomical Torso	
		Describe the types of cartilage	• Hyaline, fibro cartilage, elastic cartilage		
		Compare and contrast the features of skeletal, smooth and cardiac muscle	• Features of skeletal, smooth and cardiac muscle • Application and implication in nursing		

Unit	Time (Hrs)	Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
II	6 (T)	Describe the structure of respiratory system Identify the muscles of respiration and examine their contribution to the mechanism of breathing	**The Respiratory system** • Structure of the organs of respiration • Muscles of respiration • Application and implication in nursing	• Lecture cum Discussion • Models • Video/Slides	• Short answer • Objective type
III	6 (T)	Describe the structure of digestive system	**The Digestive system** • Structure of alimentary canal and accessory organs of digestion • Application and implications in nursing	• Lecture cum Discussion • Video/Slides • Anatomical Torso	• Short answer • Objective type
IV	6 (T)	Describe the structure of circulatory and lymphatic system.	**The Circulatory and Lymphatic system** • Structure of blood components, blood vessels – Arterial and Venous system • Position of heart relative to the associated structures • Chambers of heart, layers of heart • Heart valves, coronary arteries • Nerve and blood supply to heart • Lymphatic tissue • Veins used for IV injections • Application and implication in nursing	• Lecture • Models • Video/Slides	• Short answer • MCQ
V	4 (T)	Identify the major endocrine glands and describe the structure of endocrine Glands	**The Endocrine system** • Structure of Hypothalamus, Pineal Gland, Pituitary gland, Thyroid, Parathyroid, Thymus, Pancreas and Adrenal glands	• Lecture • Models/charts	• Short answer • Objective type
VI	4 (T)	Describe the structure of various sensory organs	**The Sensory organs** • Structure of skin, eye, ear, nose and tongue • Application and implications in nursing	• Lecture • Explain with Video/ models/charts	• Short answer • MCQ
VII	10 (T)	Describe anatomical position and structure of bones and joints Identify major bones that make up the axial and appendicular skeleton Classify the joints Identify the application and implications in nursing Describe the structure of muscle	**The Musculoskeletal system:** **The Skeletal system** • Anatomical positions • Bones – types, structure, growth and ossification • Axial and appendicular skeleton • Joints – classification, major joints and structure • Application and implications in nursing **The Muscular system** • Types and structure of muscles	• Review – discussion • Lecture • Discussions • Explain using charts, skeleton and loose bones and torso • Identifying muscles involved in nursing procedures in lab	• Short answer • Objective type

Unit	Time (Hrs)	Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
		Apply the knowledge in performing nursing procedures/skills	• Muscle groups – muscles of the head, neck, thorax, abdomen, pelvis, upper limb and lower limbs • Principal muscles – deltoid, biceps, triceps, respiratory, abdominal, pelvic floor, pelvic floor muscles, gluteal muscles and vastus lateralis • Major muscles involved in nursing procedures		
VIII	5 (T)	Describe the structure of renal system	**The Renal system** • Structure of kidney, ureters, bladder, urethra • Application and implication in nursing	• Lecture • Models/charts	• MCQ • Short answer
IX	5 (T)	Describe the structure of reproductive system	**The Reproductive system** • Structure of male reproductive organs • Structure of female reproductive organs • Structure of breast	• Lecture • Models/charts	• MCQ • Short answer
X	6 (T)	Describe the structure of nervous system including the distribution of the nerves, nerve plexuses Describe the ventricular system	**The Nervous system** • Review Structure of neurons • CNS, ANS and PNS (Central, autonomic and peripheral) • Structure of brain, spinal cord, cranial nerves, spinal nerves, peripheral nerves, functional areas of cerebral cortex • Ventricular system – formation, circulation, and drainage • Application and implication in nursing	• Lecture • Explain with models • Video slides	• MCQ • Short answer

Note: Few lab hours can be planned for visits, observation and handling (less than 1 credit lab hours are not specified separately)