

Syllabus

COURSE: I SEMESTER

APPLIED PHYSIOLOGY

	Unit title	Hours	MUST KNOW	DESIRABLE TO KNOW	NICE TO KNOW
1	General physiology	4	<ul style="list-style-type: none"> ● Cell physiology including transportation across cell membrane ● Application and implication in nursing ● Tissue – Formation and glands functions 	<ul style="list-style-type: none"> ● Cell cycle ● Tissue: repair, membranes 	<ul style="list-style-type: none"> ● Body fluid compartments, distribution of total body fluid, intracellular and extracellular compartments, major electrolytes and maintenance of homeostasis.
2	Respiratory system	6	<ul style="list-style-type: none"> ● Functions of respiratory Organs Physiology of respiration ● Exchange of gases ● Carriage of oxygen and carbon-dioxide and exchange of gases in tissue ● Regulation of respiration ● Hypoxia, cyanosis, dyspnea ● Application and implication in nursing 	<ul style="list-style-type: none"> ● Pulmonary circulation –Functional features ● periodic breathing ● Respiratory changes during exercise 	
3	Digestive system	6	<ul style="list-style-type: none"> ● Functions of the organs of digestive tract ● Functions of liver, gall bladder 	<ul style="list-style-type: none"> ● Saliva – Composition, regulation of secretion and functions of saliva 	<ul style="list-style-type: none"> ● Movements of alimentary tract ● Mechanism and regulation of gastric secretion

			<ul style="list-style-type: none"> ● Secretion and function of small and large intestine ● Digestion in mouth, stomach, small intestine, large intestine and absorption of food ● Application and implications in nursing. 	<ul style="list-style-type: none"> ● Composition and function of gastric juice, ● Composition of pancreatic juice ● Pancreas Composition of bile and function 	
4	Circulatory system	7	<ul style="list-style-type: none"> ● Functions of heart, conduction system, cardiac cycle, stroke volume and cardiac output ● Pulmonary and systemic circulation ● Blood pressure and pulse Circulation – Principles, factors influencing blood pressure, pulse ● Heart rate – Regulation of heart rate, normal value and variations ● Application and implication in nursing 	<ul style="list-style-type: none"> ● Coronary circulation ● Cardiovascular homeostasis in exercise and posture 	
5	Blood disorder	8	<ul style="list-style-type: none"> ● Blood – functions and physical characteristics ● Formation of blood cells Erythropoiesis: Functions of RBC and 	<ul style="list-style-type: none"> ● Reticule endothelial system ● Hemostasis: Role of vasoconstriction, platelet plug formation in hemostasis, coagulation factors, intrinsic 	<ul style="list-style-type: none"> ● Immunity

			<p>RBC life cycle WBC: Types and functions</p> <ul style="list-style-type: none"> ● Platelets Function and production of platelets ● Clotting mechanism of blood, clotting time, bleeding time and PTT ● Blood groups and types ● Application in nursing 	and extrinsic pathways of coagulation	
6	Endocrine system	5	<ul style="list-style-type: none"> ● Functions of pituitary gland, thyroid, parathyroid, thymus, pancreas and adrenal glands. ● Application in nursing 	<ul style="list-style-type: none"> ● Functions and hormones of pineal gland, ● Other hormones 	<ul style="list-style-type: none"> ● Alterations in disease
7	Sensory organs	3	<ul style="list-style-type: none"> ● Functions of skin ● Application and implications in nursing 	<ul style="list-style-type: none"> ● Errors of refraction 	<ul style="list-style-type: none"> ● Vision, hearing, taste and smell ● Errors of refraction ageing changes
8	Musculoskeletal system	4	<ul style="list-style-type: none"> ● Bones – Functions, ● Joints and joint movements ● Mechanism of muscle contraction ● Structure and properties of cardiac muscles and smooth muscles ● Application and implication in nursing 	<ul style="list-style-type: none"> ● Movements of bones of axial and appendicular skeleton ● Properties and functions of skeletal muscles ● Alteration of joint disease 	
9	Renal system	4	<ul style="list-style-type: none"> ● Functions of kidney in maintaining homeostasis 		

			<ul style="list-style-type: none"> ● GFR ● Functions of ureters, bladder and urethra ● Micturition ● Regulation of renal function ● Application and implication in nursing 		
10	Reproductive system	4	<ul style="list-style-type: none"> ● Female reproductive system ● Male reproductive system –hormones and its function ● Application and implication in providing nursing car 	<ul style="list-style-type: none"> ● Menstrual cycle function and hormones of ovary 	<ul style="list-style-type: none"> ● oogenesis, fertilization, implantation and functions of breast ● Spermatogenesis, Semen
11	Nervous system	9	<ul style="list-style-type: none"> ● Review of types, structure and functions of neurons ● Sensory and motor nervous system ● Peripheral nervous system, Autonomic nervous system ● Functions of cranial nerves ● Application and implication in nursing 	<ul style="list-style-type: none"> ● Review functions of brain-Medulla, pons, cerebrum, cerebellum ● Limbic system and higher mental functions- thalamus and hypothalamus Vestibular apparatus ● CSF formation, Composition, circulation of CSF 	<ul style="list-style-type: none"> ● Limbic system and higher mental functions- Hippocamps ● Autonomic functions Physiology of pain- somatic, visceral and referred ● Reflexes ● Nerve impulse

