

PNUR 101: ANATOMY AND PHYSIOLOGY (48 Hours)

COURSE DESCRIPTION

This course is an introduction to the anatomy and physiology of the human body. Learners will explore the structure and function of the major organ systems and discuss the health promotion strategies that support optimal function of each system. The terminology of normal human anatomy and physiology will be stressed.

LEARNING OUTCOMES

Upon completion of this course, the learner will be able to:

1. Use knowledge of normal anatomy and physiology to differentiate normal from abnormal within practical nursing practice.
2. Use and understand correct terminology when communicating with other members of the health care team.
3. Use knowledge of human anatomy and physiology to assist clients to understand health challenges, and health promotion.

CONTENT

Introduction to the human body

- ⇒ defining cell, tissue, organ system
- ⇒ identifying body systems
- ⇒ defining homeostasis
- ⇒ introducing terminology, metric system

The skin

- ⇒ describing structure and function of skin
- ⇒ understanding role of skin in maintenance of body heat
- ⇒ discussing health promotion strategies related to skin

Skeletal System

- ⇒ describing structure and function of bones and joints
- ⇒ exploring health promotion strategies for maintaining the skeleton

Muscular System

- ⇒ identifying major muscles
- ⇒ describing characteristics of skeletal muscles
- ⇒ discussing physiology of muscular contraction, isotonic and isometric movement
- ⇒ exploring health promotion strategies for muscular system

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Nervous System

- ⇒ identifying structural components of the brain, spinal cord and nervous system (sympathetic and parasympathetic)
- ⇒ discussing physiology of nerve impulses, neurotransmitters, types of nerves, reflexes
- ⇒ identifying main divisions of the brain
- ⇒ discussing physiology of the cerebral cortex, meninges, cerebrospinal fluid, cranial nerves
- ⇒ exploring health promotion strategies for the nervous system

Sensory System

- ⇒ identifying structures of the eye and ear
- ⇒ discussing physiology of the senses - vision, hearing, smell, taste, equilibrium, touch
- ⇒ exploring health promotion strategies for the senses

Endocrine System

- ⇒ identifying location and structural components of endocrine glands
- ⇒ discussing hormones and hormonal action
- ⇒ exploring health promotion strategies for endocrine function

Cardiovascular System

- ⇒ identifying structural components of blood, the heart, blood vessels and lymphatic system
- ⇒ discussing functions of blood, hemostasis, blood clotting, pulmonary and systemic circulation, blood flow regulation, and blood pressure
- ⇒ describing the function of the heart including conduction system, cardiac cycle, heart sounds and heart rates
- ⇒ describing the function of lymphatic vessels, ducts and glands
- ⇒ exploring health promotion strategies for cardiovascular system

Respiratory System

- ⇒ identifying structures of respiration
- ⇒ discussing phases, regulation of respiration, pulmonary ventilation, oxygen and carbon dioxide transportation in the blood
- ⇒ exploring health promotion strategies for respiratory function

Digestive System

- ⇒ identifying structure of the organs of the digestive tract and accessory organs
- ⇒ discussing functions and processes of digestive organs, accessory organs, enzymes, digestive products, absorption and elimination
- ⇒ exploring health promotion strategies for the digestive system

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The Urinary System and Body Fluids

- ⇒ identifying the organs of the urinary system
- ⇒ discussing processes of water elimination, functions of organs and hormones
- ⇒ describing interrelatedness of intracellular and intercellular fluids, water balance, electrolytes and pH balance
- ⇒ exploring health promotion strategies for the urinary system

Reproductive System

- ⇒ identifying organs of the male and female reproductive systems
- ⇒ discussing menses, hormones, menstrual cycle, fertilization, fetal development
- ⇒ exploring health promotion strategies for the reproductive system

OVERVIEW: EVALUATION STRATEGIES

The Anatomy and Physiology course must be successfully completed with a minimum passing grade of 65% in order to progress into Clinical Placement 1, and Semester 2.

<u>Evaluation Criteria</u>		<u>Completion Date</u>
1. Midterm	30%	Class 11
2. Quizzes x 3	10% each for a total of 30%	#1 – Class 6 # 2 – Class 10 # 3 – Class 18
3. Final Exam	40%	Class 23

EVALUATION CRITERIA

1. MIDTERM (30%)

This evaluation will give you the opportunity to choose two of four diagrams taken from any body system learned from Weeks One through Six. You are asked to label the diagram with structures, state functions of structures, and describe health promotion strategies related to these systems.

2. QUIZZES X 3 (30%)

You will have three quizzes containing up to 45 questions each relating to health terminology you have covered up until the time of the exam. The questions could be fill in the blank, definitions, matching etc. Your final exam will include terminology from throughout the course.

Quiz #1 covers classes 1 to 5

Quiz #2 covers classes 6 to 9

Quiz #3 covers classes 10 to 17

3. FINAL EXAM (40%)

Approximate exam time: 3 hours. This exam will have questions in a variety of formats including one diagram for labeling. There will be health terminology questions included.

Students are encouraged to submit 5 questions in a variety of formats, for exam. Correct answers must be clearly marked. They should be a mix of multiple choice, fill in blank, short answer or subjective style from any body system and health terminology covered. Questions must be submitted by Week 10 to allow time for putting exam together.

Students will receive a 5-mark bonus to be added to their exam total mark if they hand in questions for the exam by the stated date and in the correct format as stated above. You must receive a minimum 65% pass grade prior to the 5 marks being added to your total mark.

COURSE OUTLINE

OUTLINE

Class 1	Introduction to Anatomy & Physiology, Evaluation Criteria, Structure of the Human Body
Class 2	The Skeletal System
Class 3	The Muscular System
Class 4	The Cardiovascular System – The Heart: Structure and Function
Class 5	Circulation & Blood Vessels
Class 6	Quiz #1 The Blood
Class 7	The Lymphatic and Immune Systems
Class 8	Digestive System
Class 9	The Respiratory System: Structure and Function
Class 10	Quiz #2 Respiration
Class 11	Mid-term Exam
Class 12	Urinary System
Class 13	Structure and Function of the Nervous System
Class 14	Central Nervous System
Class 15	Peripheral and Autonomic Nervous System
Class 16	Special Senses: The Eyes and Ears
Class 17	The Endocrine System
Class 18	Quiz #3 The Integumentary System
Class 19	The Reproductive System – Male
Class 20	The Reproductive System – Female
Class 21	Menstrual Cycle, Pregnancy & the Fetus
Class 22	Review Class
Class 23	FINAL EXAM