

**INTERAMERICAN UNIVERSITY OF PUERTO RICO
METROPOLITAN CAMPUS
SCIENCE AND TECHNOLOGY FACULTY
CARMEN TORRES DE TIBURCIO NURSING DEPARTMENT**

SYLLABUS

I. GENERAL INFORMATION

Tcourse title	:	FUNDAMENTALS OF ADULT CARE II
Code and Number	:	NURS 2233
Credits	:	SIX (6)
Academic Term	:	
Teacher	:	
Office Location and Hours	:	
Office telephone	:	787-2501912 EXT. 2159, 2202
Email	:	

II. DESCRIPTION

Discussion of acute and chronic health dysfunctions related to functional health patterns: activity - exercise, cognitive-perceptual and sexual - reproduction. Includes the anatomical, pathophysiological, microbiological, biochemical, and environmental concepts that affect adult human functioning. Integration of communication, care management, research and nursing process in client's care. Requirement: NURS 1231. Concurrent with NURS 2141 and 2142.

III. OBJECTIVES

It is expected that, at the end of the program (EPSLO), the student will be able to:

1. Know the nursing process as an instrument for clinical decision making offering safe and quality care. (AASN)
2. Know the use of nursing interventions to prevent diseases and promote, protect, maintain and restore health. (BSN)

It is expected that, at the end of the course (SLO), the student will be able to:

1. Recognize the anatomy and pathophysiology of acute and chronic health dysfunctions related to functional health patterns: activity-exercise, cognitive-perceptual and sexuality-reproduction.
2. Show evidence-based knowledge for the decision-making process when planning nursing care for adult and elderly patients/clients within the context of the family and the community.
3. Use the nursing process for decision making that reflects critical thinking skills when offering care to adult and elderly patients/clients

with acute and chronic dysfunctions.

4. Integrate communication and computer skills that support quality patient/client care and the interdisciplinary team.

IV. COURSE CONTENT

UNIT I: MANAGEMENT OF THE CLIENT WITH ALTERATIONS OF THE SENSORY VISUAL AND AUDITORY SYSTEMS

PERCEPTUAL COGNITIVE PATTERN

- A. Physiopathological and environmental concepts and principles in the application of the nursing process to the client with health problems of the visual system. Care of the patient with eye and vision problems.
 1. Common acute and chronic dysfunctions:
 - a. Conjunctivitis
 - b. Waterfall
 - c. Glaucoma
 - d. Diabetic retinopathy
 - e. Retinal detachment
 - f. Geriatric considerations
 2. drug therapy
 3. Laboratories and blood samples.
 4. Differential diagnoses.
 5. Nursing Process applied to visual dysfunctions (NANDA, NIC and NOC).
- B. Physiopathological and environmental concepts and principles in the application of the nursing process to the client with health problems of the auditory system.
 1. Common acute and chronic dysfunctions.
 - a. External Otitis
 - b. Otitis Media
 - c. Tinnitus
 - d. labyrinthitis
 - e. Meniere's syndrome
 - f. hearing loss
 2. Medication therapy.
 3. Laboratories and blood samples.
 4. Differential diagnoses.
 5. Nursing Process applied to auditory dysfunctions (NANDA, NIC and NOC).

UNIT II: MANAGEMENT OF THE CLIENT WITH ALTERATIONS OF THE

NEUROLOGICAL SYSTEM PERCEPTUAL COGNITIVE PATTERN

- A. Concepts, pathophysiological and environmental principles in the application of the nursing process to the client with health problems of the nervous system.

1. Pathophysiology of the most common acute and chronic dysfunctions.
 - a. Alzheimer disease
 - b. Multiple sclerosis
 - c. Parkinson's disease
 - d. Meningitis
 - e. Seizures and Epilepsy
 - f. trauma to the brain
 - g. Transient Ischemic Attack (TIA)
 - h. Brain Vascular Accident
 - i. Spinal Cord Trauma
2. Medication therapy.
3. Laboratories and blood samples.
4. Differential diagnoses.
5. Nursing Process applied to Nervous System dysfunctions (NANDA, NIC and NOC).

UNIT III: MANAGEMENT OF THE CLIENT WITH PROBLEMS OF THE CARDIOVASCULAR SYSTEM ACTIVITY AND EXERCISE PATTERN

A. Physiopathological and environmental concepts and principles in the application of the nursing process to the client with health problems of the cardiovascular system.

1. Common Acute and Chronic Dysfunctions
 - a. Angina pectoris (acute coronary syndrome)
 - b. myocardial infarction
 - c. Dysrhythmias (ACLS algorithms)
 - d. Management of the patient with a pacemaker
 - e. Heart failure
 - f. Cardiogenic shock
 - g. Atherosclerosis/arteriosclerosis
 - h. Peripheral Vascular Disease PVD and PAD
 - i. thrombophlebitis
 - j. Hypertension
2. drug therapy
3. Laboratories and blood samples
4. Differential diagnoses.
5. Nursing Process applied to dysfunctions of the Cardiovascular System (NANDA, NIC and NOC)

UNIT IV: MANAGEMENT OF THE CLIENT WITH RESPIRATORY TRACT PROBLEMS

ACTIVITY AND EXERCISE PATTERN

A. Physiopathological and environmental concepts and principles in the application of the nursing process to the client with health problems of the respiratory system.

1. Common acute and chronic dysfunctions

- a. Asthma
 - b. COPD: Chronic Bronchitis and Emphysema
 - c. pulmonary embolism
 - d. Pneumonia
 - e. lung cancer
 - f. Tuberculosis
 - g. Pneumothorax
2. drug therapy
 3. Laboratories and blood samples.
 4. Differential diagnoses.

Nursing Process applied to respiratory system dysfunctions (NANDA, NIC and NOC).

UNIT V: MANAGEMENT OF THE CLIENT WITH PROBLEMS OF THE

HEMATOLOGICAL SYSTEM ACTIVITY AND EXERCISE PATTERN

A. Physiopathological and environmental concepts and principles in the application of the nursing process to the client with health problems of the hematological system.

1. Most common acute and chronic dysfunctions
 - a. Anemia resulting from increased destruction of red blood cells
 - i. Iron deficiency anemia – (iron deficiency anemia)
 - ii. Sickle Cell Anemia – (sickle cell anemia, sickle cell anemia)
 - iii. Aplastic anemia
 - iv. Anemia in kidney disease
 - b. polycythemia
 - c. Leukemia
 - d. Hodgkin's lymphoma
 - e. Platelet and Coagulation Factor Disorders, Vit. K
 - f. Hemophilia
2. Transfusion of blood components and their derivatives
3. drug therapy
4. Laboratories and blood samples
5. Differential diagnoses
6. Nursing Process applied to Hematological System dysfunctions (NANDA, NIC and NOC)

UNIT VI: MANAGEMENT OF THE CLIENT WITH PROBLEMS OF THE MUSCULOSKELETAL SYSTEM

ACTIVITY AND EXERCISE PATTERN

A. Physiopathological and environmental concepts and principles in the application of the nursing process to the client with health problems of the musculoskeletal system.

1. Common acute and chronic dysfunctions
 - a. bone tumors
 - b. fractures
 - c. lumbosacral back pain
 - d. amputations
 - e. common foot problems

- f. Common upper extremity problems
- g. Osteomyelitis and Osteoporosis
- h. Rheumatic diseases
- 2. drug therapy
- 3. Laboratories and blood samples.
- 4. Differential diagnoses
- 5. Nursing Process applied to dysfunctions of the Musculoskeletal System (NANDA, NIC and NOC)

UNIT VII: MANAGEMENT OF THE CLIENT WITH PROBLEMS OF THE SEXUAL/REPRODUCTIVE SYSTEM

SEXUAL/REPRODUCTIVE PATTERN

B. Physiopathological and environmental concepts and principles in the application of the nursing process to the client with health problems of the sexual/reproductive system.

- 1. Common acute and chronic dysfunctions
 - a. breast cancer
 - b. Prostate cancer
- 2. drug therapy
- 3. Laboratories and blood samples
- 4. Differential diagnoses
- 5. Nursing Process applied to dysfunctions of the Reproductive Systems (NANDA, NIC and NOC)

INTEGRATE SCIENCES CONTENT:

UNIT I: MANAGEMENT OF THE CLIENT WITH ALTERATIONS OF THE NEUROLOGICAL SYSTEM

PERCEPTUAL COGNITIVE PATTERN

A. Anatomical, physiological, biochemical, microbiological and environmental concepts and fundamentals related to the nervous system, essential for nursing care.

- 1. Anatomy and physiology of the central, peripheral and autonomic nervous system.
- 2. Principles and fundamentals of biochemistry related to the nervous system.
 - a. metabolic requirements
 - b. blood brain barrier
 - c. synapse
 - d. Chemical components of cerebrospinal fluid.
- 3. Microorganisms related to the nervous system.

UNIT II: MANAGEMENT OF THE CLIENT WITH ALTERATIONS OF THE SENSORY VISUAL AND AUDITORY SYSTEMS

PERCEPTUAL COGNITIVE PATTERN

A. Anatomical, physiological, biochemical, microbiological and environmental concepts and fundamentals related to the visual system, essential for nursing care.

1. Anatomy and physiology of the visual system.
2. Principles and fundamentals of biochemistry related to the visual system.
 - a. Physicochemical properties of ocular fluids.
 - b. Amino acids
 - c. Protein pigments and other ocular proteins.
 - d. Main enzymes and ocular vitamins.
3. Microorganisms related to the visual system.
4. Relationship of the visual system with other systems of the human body.

B. Anatomical, physiological, biochemical, microbiological and environmental concepts and fundamentals related to the auditory system, essential for nursing care.

1. Anatomy and physiology of the auditory system
2. Principles and fundamentals of biochemistry related to the auditory system
 - a. endolymph and perilymph
 - b. cochlear synapses.
 - c. Chemical-Induced Hearing Disorders
3. Microorganisms related to the auditory system
4. Relationship of the auditory system with other systems of the human body

UNIT III: MANAGEMENT OF THE CLIENT WITH PROBLEMS OF THE

CARDIOVASCULAR SYSTEM ACTIVITY AND EXERCISE PATTERN

A. Concepts and anatomical, physiological, biochemical, microbiological and environmental foundations related to the cardiovascular system, essential for nursing care.

1. Anatomy and physiology of the cardiovascular system
2. Principles and fundamentals of biochemistry related to the cardiovascular system
 - a. biochemical markers
 - b. humoral factors
 - c. Neurotransmitters
 - d. Hemodynamics of blood flow
3. Microorganisms related to the cardiovascular system
4. Relationship of the cardiovascular system with the other systems of the human body.

UNIT IV: MANAGEMENT OF THE CLIENT WITH RESPIRATORY TRACT

PROBLEMS ACTIVITY AND EXERCISE PATTERN

A. Anatomical, physiological, biochemical, microbiological and environmental concepts and foundations related to the respiratory system, essential for nursing care.

1. Anatomy and physiology of the upper and lower respiratory system.
2. Principles of physics related to the respiratory system
 - a. Law of gravity
 - b. Pressure and Impulse Gradients
 - c. Energy
 - d. Concept of elasticity
 - e. liquids
 - f. Gas Laws: Boyle, Charles, Dalton, Henry
3. Principles and fundamentals of biochemistry related to the respiratory system
 - a. Basic properties of gases
 - b. Partial pressure of gases in atmospheric air
 - c. Effect of surface tension: the role of the surfactant
 - d. Acid-base balance
4. Microorganisms related to the respiratory system
5. Relation of the respiratory system with other systems of the body.

UNIT V: MANAGEMENT OF THE CLIENT WITH PROBLEMS OF THE

HEMATOLOGICAL SYSTEM ACTIVITY AND EXERCISE PATTERN

A. Anatomical, physiological, biochemical, microbiological and environmental concepts and fundamentals related to the hematological system, essential for nursing care.

1. Structure and Physiology of the Hematological System
2. Principles of physics related to the hematological system
 - a. Second law of Newton
 - b. Goo
 - c. Gradient
3. Principles and fundamentals of biochemistry related to the hematological system
 - a. Biochemical substances: proteins, ions, gases and biomolecules.
 - b. Blood count: Normal values
 - c. Extrinsic and intrinsic pathway of coagulation: Intrinsic factor
 - d. Hemoglobin: oxyhemoglobin, biosynthesis and catabolism of the heme group.
4. Principles of microbiology related to the hematological system
 - a. The blood as a route of transmission of pathogens
 - b. Body's defenses against infection: white blood cells and antibodies
5. Relationship of the hematological system with other systems of the body

UNIT VI: MANAGEMENT OF THE CLIENT WITH PROBLEMS OF THE MUSCULOSKELETAL SYSTEM

ACTIVITY AND EXERCISE PATTERN

A. Concepts and anatomical, physiological, biochemical, microbiological and environmental foundations related to the musculoskeletal system, essential for nursing care.

1. Anatomy and physiology of the Musculoskeletal System
2. Physics principles related to the skeletal system
 - a. Principles of Mechanics and Gradual Force
3. Principles and fundamentals of biochemistry related to the skeletal system
 - a. Chemical composition of the bone matrix
 - b. Calcium Homeostasis
 - c. Skeletal Muscle Metabolism
 - d. Energy Sources for Muscle Contraction
4. Microorganisms related to the musculoskeletal system
5. Relationship of the musculoskeletal system with other systems of the body

UNIT VII: MANAGEMENT OF THE CLIENT WITH PROBLEMS OF THE SEXUAL/REPRODUCTIVE SYSTEM

SEXUAL/REPRODUCTIVE PATTERN

A. Anatomical, physiological, biochemical, microbiological and environmental concepts and foundations related to the sexual/reproductive system, essential for nursing care.

1. Anatomy and physiology of the reproductive system
2. Principles and fundamentals of biochemistry related to the reproductive system
 - a. Estrogens as initiators in mammary carcinogenesis
 - b. Disrupting the biological rhythm increases the risk of breast cancer
 - c. “Prostate specific antigen (PSA) level”.
 - d. Genetic mutations in prostate cancer
3. Microbiology related to the male and female reproductive system
 - a. Carcinoma-associated fibroblasts (CAF) also called tumor-associated fibroblasts (TAF), tumor-associated macrophages (TAM), extracellular matrix, blood and lymphatic vessels, adipocytes, and lymphoid cells in breast cancer
 - b. Stem cells called Notch and Hedgehog in prostate cancer.
 - c. Effect of the endocrine system on the genitourinary tissue
 - d. Relationship of the reproductive system with other systems of the body.

V. ACTIVITIES

1. study guides

2. group discussion
3. Small group discussion
4. Questions and answers
5. Supplemental reading
6. Assessment
7. Videos

VI. EVALUATION

Criteria	Points	Percentage
Midterm #1 (50% Nursing and 50% Integrated Science)	100	20%
Midterm #2 (50% Nursing and 50% Integrated Science)	100	20%
Comprehensive Final Exam 3 (ATI Proctor: Basics)	100	25%
Assignments and others.	100	25%
Attendance	100	5%
ATI Practice	100	5%

VI. SPECIAL NOTES

VII.

A. Ancillary services or special needs

All students who require auxiliary services or special assistance must request them at the beginning of the course or as soon as they become aware that they are needed, through the corresponding registration, in the Office of the Coordinator of Services for Students with Disabilities in the Orientation Program. with Dr. María de los A. Cabello or to the email mcabello@metro.inter.edu

B. Honesty, fraud and plagiarism

Dishonesty, fraud, plagiarism and any other inappropriate behavior in relation to academic work constitute major infractions sanctioned by the General Student Regulations. Major infractions, according to the General Student Regulations, may result in suspension from the University for a defined period of more than one year or permanent expulsion from the University, among other sanctions.

C. Use of electronic devices

Cell phones and any other electronic device that could interrupt the teaching and learning processes or alter the environment conducive to academic excellence will be deactivated. Urgent situations will be addressed, as appropriate. The handling of electronic devices that allow data to be accessed, stored or sent during evaluations or exams is prohibited.

D. Compliance with the provisions of Title IX

The Federal Higher Education Law, as amended, prohibits discrimination based on sex in any academic, educational, extracurricular, athletic activity or in any other program or employment, sponsored or controlled by an institution of higher education regardless of

whether it is carried out on or off the institution's premises, if the institution receives federal funds.

In accordance with current federal regulations, an Assistant Title IX Coordinator has been appointed in our academic unit to provide assistance and guidance in relation to any alleged incident constituting sex or gender discrimination, sexual harassment or sexual assault. . You can contact the Assistant Coordinator, Mr. George Rivera Rodríguez at 787-250-1912, extension 2262, or email griverar@metro.inter.edu.

The Normative Document entitled Norms and Procedures to Address Alleged Violations of the Provisions of Title IX is the document that contains the institutional rules to channel any complaint that is filed based on this type of allegation. This document is available on the portal of the Inter American University of Puerto Rico (www.inter.edu).

VIII. EDUCATIONAL RESOURCES

Textbooks:

Brunner & Suddarth's (2018) Textbook of Medical - Surgical Nursing. Lippincott, Williams & Wilkins, 14th edition. Lippincott

Patton & Thibodeau (2018) Anatomy and Physiology, 10th edition. Elsevier, Mosby.

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