



INTER AMERICAN UNIVERSITY OF PUERTO RICO
METROPOLITAN CAMPUS
FACULTY OF SCIENCES AND TECHNOLOGY
SCHOOL OF NURSING CARMEN TORRES DE TIBURCIO

SYLLABUS

I. General Information

Course Title	:	Fundamentals of Adult Care II
Code and Number	:	NURS 2233
Credits	:	Six (6)
Academic Term	:	_____
Professor	:	_____
Place and Office Hours	:	_____
Office Phone	:	250-1912 Ext. 2159, 2202
Electronic mail	:	_____

II. DESCRIPTION

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

III. TERMINAL OBJECTIVES

- 1) Utilizes the nursing process to make decisions that reflect critical thinking skills while providing safe, effective, efficient, timely, and equitable care to the patient/client adult and geriatric with acute and chronic dysfunctions related to functional health patterns: activity - exercise, cognitive-perceptual and sexuality - reproduction. **(Nursing process)**
- 2) Offer humanistic care focused on the adult/geriatric patient/client, family and caregivers by promoting a continuous healing relationship considering their needs, values, preferences and cultural beliefs. **(Humanistic Care)**
- 3) Demonstrates competence in therapeutic interventions based on evidence with scientific rationale that includes Essentials of anatomy, physiology, pathophysiology, microbiology, biochemistry and environmental concepts that affect human performance of the adult and old. **(Health disease)**
- 4) Uses effectively verbal and non-verbal communication skills and technological information that support quality care to the patient/client and the interdisciplinary team. **(Communication, health informatics)**
- 5) Applies knowledge based on evidence for the decision making process when offering nursing care to the adult and geriatric patient/client at different stages of growth and development within the context of the family and the community. **(Research)**
- 6) Demonstrates effective skills in management and leadership as a member of the health interdisciplinary team to facilitate security and quality improvement of adult and geriatric patient/customer. **(Management, TeamSTEPPS and safety)**
- 7) Demonstrates commitment for personal development and professional learning through life. **(Leadership and Management)**

IV. TEMATIC CONTENT:

COGNITIVE PERCEPTUAL PATTERN

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

A. Anatomical, physiological, biochemical, microbiological and environmental concepts and foundations of the nervous system essential for the nursing care.

1. Anatomy and physiology of the central, peripheral, and autonomic nervous system
 - a. Structural organization of the nervous system
 - b. Neurons
 - c. Central Nervous System
 - d. Peripheral Nervous System
2. Principles and foundations of biochemistry related to the nervous system
 - a. Metabolic requirements
 - b. The blood-brain barrier
 - c. Electrical conduction
 - d. Synapses
 - e. Chemical constituents of CSF
3. Microorganisms related to the nervous system
4. Relationship of the nervous system with other human body systems.

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

1. Common acute and chronic dysfunctions
 - a. Alzheimer's disease
 - b. Multiple Sclerosis
 - c. Parkinson disease
 - d. Meningitis
 - e. Seizures and Epilepsy
 - f. Brain trauma
 - g. Transient Ischemic Attack (TIA)
 - h. Cerebral Vascular Accident (Stroke)
 - i. Spinal cord trauma
3. Drug Therapy
4. Nursing Process applied in nervous system dysfunctions (NANDA, NIC y NOC)

UNIT II: MANAGEMENT OF CLIENT WITH DYSFUNCTION OF VISUAL AND AUDITORY SYSTEM

A. Anatomical, physiological, biochemical, microbiological and environmental concepts and foundations of the visual and auditory system essential for the nursing care.

1. Anatomy and physiology of the visual system
2. Principles and foundations of biochemistry related to the visual system
 - a. Physicochemical properties of the eye fluid
 - b. Aminoacids
 - c. Protein pigments and other eye proteins
 - d. Major ocular enzymes and vitamins
3. Microorganisms related to the visual system
4. Relationship of the visual system with other human body systems

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

1. Common acute and chronic dysfunctions
 - a. Conjunctivitis
 - b. Cataracts
 - c. Glaucoma
 - d. Diabetic retinopathy
 - e. Retinal detachment
 - f. Geriatric considerations
3. Drug Therapy
4. Nursing Process applied in visual dysfunctions (NANDA, NIC y NOC)

C. Anatomical, physiological, biochemical and microbiological concepts and foundations of the visual and auditory system essential for the nursing care.

1. Anatomy and physiology of the auditory system
2. Principles and foundations of biochemistry related to the auditory system
 - a. Endolymph and Perilymph
 - b. Cochlear Synapse
 - c. Hearing disorders induced by chemicals
3. Microorganisms related to the auditory system
4. Relationship of the auditory system with other human body systems

D. Physiopathological and environmental concepts and principles in the application of the nursing process to the client with health problems of the ear.

1. Common acute and chronic dysfunctions
 - a. Otitis Externa (Swimmers Ear)
 - b. Otitis Media
 - c. Tinnitus
 - d. Labyrinthitis
 - e. Disease or Meniere syndrome
 - d. Hearing loss
2. Drug Therapy
3. Nursing Process applied in ear dysfunctions (NANDA, NIC y NOC)

PATTERN: ACTIVITY/EXERCISE

UNIT III: MANAGEMENT OF CLIENT WITH CARDIOVASCULAR SYSTEM PROBLEMS

A. Anatomical, physiological, biochemical, microbiological and environmental concepts and foundations of the cardiovascular system essential for the nursing care.

1. Anatomy and physiology of the cardiovascular system
2. Principles and foundations of biochemistry related to the cardiovascular system
 - a. Biochemical markers
 - b. Humoral Factors
 - c. Neurotransmitter
 - d. Hemodynamic blood flow
3. Microorganisms related to the cardiovascular system
4. Relationship of the cardiovascular system with other human body systems.

B. 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. Dysrhythmia (ACLS Algorithms)
 - d. Management of patients with pacemaker
 - e. Heart failure
 - f. Cardiogenic shock
 - g. Atherosclerosis/ arteriosclerosis
 - h. Peripheral Vascular Disease PVD & PAD
 - i. Thrombophlebitis
 - j. Hypertension
2. Drug Therapy:
3. Nursing Process applied in Cardiac System dysfunctions (NANDA, NIC y NOC)

UNIT IV: MANAGEMET OF THE CLIENT WITH RESPIRATORY TRACT PROBLEMS

A. Anatomical, physiological, biochemical and microbiology concepts and foundations of the respiratory system essential for the nursing care.

1. Anatomy and physiology of the upper and lower respiratory system
2. Concepts of physics related to the respiratory system
 - a. Law of gravity
 - b. Pressure gradients and Impulse
 - c. Power
 - d. Concept of elasticity
 - e. Liquids
 - f. Law of Gases: Boyle, Charles, Dalton, Henry.
3. Principles and foundations of biochemistry related to the respiratory system
 - a. Basic properties of gases
 - b. Partial pressure of gases in atmospheric air
 - c. Effect of the superficial tension /role of surfactant in respiration
 - d. Acid base balance
4. Microorganisms related to the respiratory system
5. Relationship of the respiratory system with other systems of the body

B. 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. Status Asthmaticus
 - c. COPD: Chronic Bronchitis and Emphysema
 - d. Pneumonia
 - e. Lung Cancer
 - f. Tuberculosis
 - g. Pneumothorax
 - h. Pulmonary Embolism
2. Drug Therapy
3. Nursing Process applied in Respiratory System dysfunctions (NANDA, NIC y NOC)

UNIT V: MANAGEMENT OF CLIENT WITH DYSFUNCTION OF THE HEMATOLOGIC SYSTEM

A. Anatomical, physiological, biochemical and microbiological concepts and foundations of the hematologic system essential for the nursing care.

1. Anatomy and physiology of the Hematological system
2. Physical principles related to hematologic system
 - a. Newton's second law
 - b. Viscosity
 - c. Gradient
3. Principles and foundations of biochemistry related to the hematologic system.
 - a. Biochemical Substances: proteins, ions, gases and biomolecules
 - b. Blood Count: Normal Values
 - c. Extrinsic and intrinsic coagulation pathway: Intrinsic Factor
 - d. Hemoglobin: oxyhemoglobin, biosynthesis and catabolism of heme group
4. Principles of Microbiology related to hematologic system
 - a. The blood as a route of transmission of pathogens.
 - b. Changes in the blood as part of the defenses of the organism against infection: white blood cells and antibodies.
5. Relationship of the hematologic system with other systems of the body.

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

1. Common acute and chronic dysfunctions
 - a. Anemia resulting from the increase in destruction of red cells
 - i. Iron deficiency anemia
 - ii. Anemia due to Vitamin B12 deficiency
 - iii. Anemia due to folic acid deficiency
 - iv. Sickle Cell Anemia
 - v. Aplastic Anemia
 - vi. Anemia in renal failure
 - b. Polycythemia
 - c. Leukemia
 - d. Hodgkin's Lymphoma
 - e. Platelets disorders and coagulation, Vit. K deficiency factors
 - f. Hemophilia
2. Blood Transfusions
3. Drug Therapy
4. Nursing Process applied in Hematologic System dysfunctions (NANDA, NIC y NOC)

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

A. Anatomical, physiological, biochemical and microbiological concepts and foundations of the musculoskeletal system essential for the nursing care.

1. Anatomy and physiology of the musculoskeletal system
2. Physical principles related to the skeletal system
 - a. Principles of mechanics and gradual force
3. Principles and foundations of biochemistry related to the musculoskeletal system
 - a. Chemical composition of the bone matrix
 - b. Calcium homeostasis
 - c. Skeletal muscle metabolism
 - d. Sources of energy for muscle contraction

4. Microorganisms related to the musculoskeletal system
5. Relationship of the musculoskeletal system with other systems of the body

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

1. Acute and chronic dysfunctions
 - a. Bone cancer
 - b. Fractures
 - c. Lumbosacral Back Pain
 - d. Amputations
 - e. Carpal Tunnel Syndrome
 - f. Osteoporosis
 - g. Osteomyelitis
2. Drug Therapy
3. Nursing Process applied in Musculoskeletal System dysfunctions (NANDA, NIC y NOC)

FUNCTIONAL PATTERN: SEXUAL / REPRODUCTIVE

UNIT VII: MANAGEMENT OF THE CLIENT WITH SEXUAL REPRODUCTIVE PROBLEMS

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

1. Anatomy and physiology of the Reproductive system
2. Principles and foundations of biochemistry related to the sexual /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. Mutations in prostate cancer genetics
3. Microbiology related to the female and male reproductive system.
 - a. Fibroblasts associated with carcinoma (CAF) also called fibroblasts associated with tumor (TAF), macrophage-associated tumor (TAM), extracellular matrix, blood and lymphatic vessels, fat cells and lymphoid in breast cancer
 - b. Stem cells called Notch y Hedgehog in prostate cancer
 - c. Effect of the endocrine system in genitourinary tissue
 - d. Relationship of the sexual/reproductive system with other systems of the body

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. Nursing Process applied in Musculoskeletal System dysfunctions (NANDA, NIC y NOC)

V. LEARNING ACTIVITIES

1. Case studies
2. Study guides
3. Group discussion
4. Discussion in small groups
5. Questions and answers
6. Independent studies
7. Additional readings
8. Animations/virtual simulations
9. Evaluation
10. Videos

VI. EVALUATION

Criteria	Points	% of Final Grade
Partial exam # 1	100	20
Partial exam # 2	100	20
Comprehensive final exam # 3	100	25
Assignments and/or quizzes, oral/face-to-face presentations, With evaluations criteria. Study Guides, Illustrations, portfolio, learning modules.	100	20
Attendance	100	10
ATI	100	5
TOTAL	600	100

VII. SPECIAL NOTES

A. Supporting Services or Special Needs

Students requiring additional services or special assistance must request these at the beginning of the course or as soon as they learn that they need them, through the appropriate register in the office of Mr. Jose Rodriguez, at the University Orientation Program located at the first floor of Harris Building.

B. Honesty, Fraud and Plagiarism

The lack of honesty, fraud, plagiarism and any other inadequate behavior in relation to academic work constitute major infractions sanctioned by General Student Regulations. Major infractions, according to General Regulation Students, may result in suspension from the University for a definite period of time greater than one year or the permanent expulsion from the University, among others sanctions.

C. Use of Electronic Devices

Cellular (mobile) telephones, IPODS, and any other electronic device that could interrupt the teaching-learning process or disrupt a milieu favorable for academic excellence will be deactivated. Critical situations will be dealt with in an appropriate manner. The use of electronic devices that permit the accessing, storing or sending of data during tests or examinations is prohibited.

D. Special Requirements of Practice and Internship Centers

Some academic programs of the University require students to complete a practice or internship in a real work scenario as part of the degree requirements. These external centers may be state and

federal agencies, hospitals, and nongovernmental organizations, among others. It is students' responsibility to comply with the external center's requirements in order to complete their practice or internship. Depending on the practice center, these requirements may be doping tests, HIV tests, an immunization certificate against hepatitis, a health certificate, a negative criminal record, or any other requirement that the institution or practice center may stipulate. If students refuse or are not able to meet any of the requirements, they will be unable to complete their practice or internship and, therefore, will not pass the practice or internship course or meet the graduation requirements of their academic program.

F. Compliance with the provisions of Title IX

If an institution receives federal funding, the law on graduate higher education as amended prohibits discrimination on the basis of sex in any academic activity, education, extracurricular, athletic or any other program or employment sponsored or controlled by an institution of higher education independently of it being celebrated within or out of the territories of the institution, if the institution receives federal funding. In accordance to the federal regulations, our academic unit has designated a coordinator Title IX auxiliary, which will offer assistance and orientation in regards to any a ledge incident related to discrimination based on sex or gender, sexual harassment or sexual assault. Contact the Auxiliary Coordinator George Rivera, Security Director, at phone number 787-250-1912, extension 2147, or email grivera@metro.inter.edu.

The regulatory document entitled rules and procedures that address alleged violations of the provisions of title IX is the document containing institutional rules to channel any complaint addressing on this type of allegation. This document is available on the gateway of the Interamerican University of Puerto Rico (www.inter.edu)

VIII. EDUCATIONAL RESOURCES

Text Book

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

Patton& Thibodeau. (2018). *Anatomy and Physiology*. 10th Edition, Mosby.