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

SYLLABUS

I GENERAL INFORMATION

Course title	:	FUNDAMENTALS OF ADULT CARE I
Code and Number	:	NURS 1231
Credits	:	SIX (6)
Academic Term	:	
Teacher	:	
Office Location and Hours	:	
Office Telephone	:	(787) 250-1912 Ext. 2159, 2202
Email	:	

II. DESCRIPTION

Discussion of the acute and chronic dysfunctions of health related to functional health patterns: perception and health management, nutritional-metabolic and elimination. Includes anatomical, physiopathological, microbiological, biochemical and environmental concepts that affect human functioning. Integration of communication, administration, care management, research and the nursing process skills for client care. Prerequisite: NURS 1111, 1112, 1130. Corequisite: NURS 1232.

III. OBJECTIVES

END OF PROGRAM STUDENT LEARNING OUTCOMES (GRADUATE PROFILE OF COMPETENCIES)

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

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

GENERAL OBJECTIVES (COURSE STUDENT LEARNING OUTCOMES)

1. Use the nursing process to make decisions that reflect critical thinking skills while providing safe, effective care, efficient, timely, and equitable to adult and elderly patients/clients with acute and chronic

dysfunctions related to the functional patterns of health: Perception and Management of Health, Nutritional Metabolic, and Elimination.

2. Offer humanistic care centered on the adult and elderly patient/client, their family, and care providers that promote a continuous healing relationship considering their needs, values, preferences, and their cultural and spiritual beliefs.
3. Demonstrate competence in evidence-based therapeutic interventions with the scientific rationale that integrates the basic concepts and fundamentals of anatomy and physiology, pathophysiology, microbiology, physics, biochemistry, and environmental concepts that affect human functioning in adults and older adults for the promotion, maintenance, and restoration of health in structured settings.
4. Effectively use verbal, nonverbal, and technological communication while discussing case studies and implementing small group discussions or other learning strategies to promote teamwork skills with adult and older clients.
5. Apply evidence-based knowledge during rational clinical decision-making methods by providing the best nursing care to young and old adult patients/clients within the context of their families.
6. Demonstrate effective management and leadership skills as a member of the interdisciplinary health team to facilitate safety and quality improvement for adult and elderly patients/clients.
7. Demonstrate responsibility and commitment to their personal development and professional learning throughout life.

IV. COURSE CONTENT

Unit I: Introduction to Medical-Surgical Nursing.

A. **Physio-pathological and environmental concepts and principles in applying the nursing process to perioperative patients/clients.**

1. Security http://www.jointcommission.org/PatientSafety/NationalPatientSafetyGoals/.
2. Institute for Health Care Improvement (IHI) Interventions to save patients' lives and prevent harm - http://www.ihi.org/Engage/Initiatives/Completed/5MillionLivesCampaign/Pages/default.aspx
3. Institute of Medicine: Core Competencies for Health Professionals https://qsen.org/competencies/
    a. QSEN Competencies
        1) Client-Centered Care.
        2) Teamwork and collaboration.
        3) Evidence-based practice.
        4) Quality improvement
        5) Security

6) Informatics

B. **Health Situations**
   1. Security
   2. Situations in health care in hospitals.
   3. Care at the end of life.
   4. Cultural Competence www.thinkculturalhealth.org
   5. Patient Education
   6. New vital signs – Literacy in Health.
      a. Patient education.
      b. Education on the disease process.

Unit II: Management of perioperative patients/clients.

A. Physio pathological and environmental concepts and principles in the application of the nursing process to perioperative patients/clients.

1. PREOPERATIVE PHASE

a. Types and purpose of surgery
b. Physical, psychological, and social responses of client/family/significant others
c. Application of the nursing process
   1) Introduction to the Universal Protocol for the Prevention of Wrong Sites.
   2) Procedures and Wrong Person Surgery™- from the Joint Commission (JC) - https://www.jointcommission.org/-/media/tjc/documents/standards/universal-protocol/up_poster1pdf.pdf
   3) World Health Organization Surgical Safety Checklist - http://www.who.int/patientsafety/safesurgery/tools_resources/SSSL_Checklist_finalJun08.pdf
   4) Medication Therapy Monitoring

2. INTRAOPERATIVE PHASE

a. Surgical environment (Operating Room-OR).
b. Members and functions of the operating room (OR) team.
c. Communication between team members.
d. Types of anesthesia.
e. Security
f. Application of the nursing process.

3. POST-OPERATIVE PHASE

a. Post-Anesthesia Care Unit (PACU).

b. Pain control
    1) Clinical Guidelines for Pain Relief – American Society of Peri Anesthesia Nursing. ASPAN) http://www.aspan.org/ClinicalPractice/ClinicalGuidelines/PainandComfort/tabid/3256/Default.as px
c. Infection control
    1) Post-Operative Complications
        a) Nausea & Vomiting – Application of the nursing process.

Unit III: I Immune System

A. Physio-pathological and environmental concepts and principles in the application of the nursing process to patients/clients with dysfunctions of the Immune System.

1. Common acute and chronic dysfunctions:
    a. Burns
        1) Septic shock
            i. Hypersensitivity reactions
        2) Anaphylactic shock
            i. Acquired Immune Deficiency Syndrome (AIDS).
2. Risk factors, prevention, diagnostic tests, critical laboratory values , and treatment.
3. Application of the nursing process.

B. Physio-pathological and environmental concepts and principles in the application of the nursing process to patients/clients with alterations in cell growth (cancer).

1. Common acute and chronic dysfunctions
2. Definition of basic concepts – National Cancer Institute - http://www.cancer.gov/
3. Benign and malignant neoplasms.
    a. Risk factors, prevention, diagnostic tests, critical laboratory values , and treatment.
    b. Signs of deterioration (ABCD rule in self-examination of moles).
        1) Application of the nursing process.

Unit IV: Endocrine System Nutritional-Metabolic health pattern.

A. Physio-pathological and environmental concepts and principles in the application of the nursing process to patients/clients with dysfunctions of the Endocrine

System.

1. Common health problems
    a. Diabetes mellitus (type I and II).
        1) Risk factors, prevention, diagnosis (critical laboratory values), and treatment.
            a) American Diabetes Association – Information for http://www.diabetes.org/iii.Guidelines – New guidelines in Diabetes 2019- https://www.intramed.net/contentover.asp?contenidoid=93549
    b. Hiccup and hyperthyroidism.
    c. Hiccup and hyperparathyroidism.
        1) Risk factors, prevention, diagnostic tests, critical laboratory values , and treatment.
    d. Application of the nursing process.

Unit V: Gastrointestinal System

A. Physio-pathological and environmental concepts and principles in the application of the nursing process to patients/clients with dysfunctions of the Gastrointestinal System.

1. Common health problems
    a. Esophageal varices
    b. Gastritis
    c. Peptic and duodenal ulcer
    d. Cholecystitis and cholelithiasis
    e. Hepatitis
    f. Hepatic cirrhosis
    g. Pancreatitis
    h. Obesity
2. Risk factors, prevention, diagnostic tests, critical laboratory values, and treatment.
    a. Application of the nursing process
    b. Practical Guide: "American Gastroenterological Association -https://www.gastro.org/practice-guidance/practice-updates

HEALTH PATTERN: ELIMINATION

Unit VI: Urinary System

A. Physiopathological and environmental concepts and principles in the application of the nursing process to patients/clients with

dysfunctions in fluid and electrolyte balance and acid-base imbalances

1. Common health problems.
    a. Hyper and hyponatremia.
    b. Hyper and hypokalemia.
    c. Dehydration and edema.
2. Risk factors, prevention, diagnostic tests, critical laboratory values , and treatment.
3. Application of the nursing process

B. Physiopathological and environmental concepts and principles in the application of the nursing process to patients/clients with dysfunctions of the urinary system.

1. Common health problems
    a. Acute and chronic kidney failure.
        i. Publications - American Society of Nephrology http://www.asn-online.org/
    b. Glomerulonephritis
2. Risk factors, prevention, diagnostic tests, critical laboratory values and treatment.
    a. Application of the nursing process.

INTEGRATED SCIENCES

Unit I: Introduction to Medical-Surgical Nursing

A. Microbiological and biochemical factors that affect human functioning:

1. Chemical agents of the skin and its appendages.
2. Biochemical reactions of the thermoregulatory control of blood flow of the human skin (Homeostasis of body temperature).
3. Chemical mediators of inflammation.
4. Chemical factors that affect Microbial growth: pH, chemical nutrients, temperature, and osmotic pressure.
5. Methods of chemical agents of microbial growth inhibition.

B. Anatomical, physiological, biochemical, microbiological, and environmental concepts and functions related to safety in the use of central lines, urinary catheters, and nasogastric tubes.

1. Centerline
    a. Anatomy Landmark Considerations for Central Line Cannulation.
    b. Infection and microorganisms related to antisepsis and venous catheter.

2. Urinary Catheters
    a. Male and female urogenital anatomy for bladder catheterization.
    b. Uropathogens and catheter-related colonization.

3. **Nasogastric tube**
    a. Anatomy for nasogastric tube insertion.
    b. Aspiration of NGT secretions for pH measurement.

Unit II: Management of perioperative patients/clients

A. Anatomical, physiological, biochemical, microbiological, and environmental, pathophysiological concepts and functions related to patient/client management (pre, intra, and postoperative).

1. Anatomy and Physiology related to the management of perioperative patients/clients.
2. Principles and fundamentals of biochemistry related to the management of patients/clients (pre, intra and postoperative).
3. Concepts and fundamentals of microbiology related to patient/client management (pre, intra and postoperative).
4. Physics concepts related to the skin.

Unit III: Immune System

A. Anatomical, physiological, pathophysiological, biochemical, and microbiological concepts of the Immune System.

1. Principles and fundamentals of anatomy and physiology of the Immune System
    a. System Lymphatic
    b. Immune System
2. Principles and fundamentals of biochemistry in relation to the Immune System.
3. Principles and fundamentals of microbiology related to the immune system.

B. Anatomical, physiological, biochemical, microbiological, pathophysiological, and environmental concepts and functions related to cancer development.

1. Principles and fundamentals of anatomy and physiology related to the development of cancer
2. Principles and foundations of Biochemistry related to cancer development
3. Principles and fundamentals of Microbiology related to the development of cancer

Unit IV: Endocrine System

A. Anatomical, physiological, biochemical, microbiological, pathophysiological, and environmental concepts and functions related to the endocrine system.

1. Principles and fundamentals of anatomy and physiology related to the endocrine system
    a. Organization of the endocrine system
    b. Functions of the endocrine system
    c. Classification of hormones

d. Endocrine organs, Endocrine glands, and their related hormones in humans

2. **Concepts and fundamentals of biochemistry related to the endocrine system**
   a. Chemical communication of the glands
3. **Concepts and fundamentals of microbiology related to the endocrine system**
   a. Susceptibility to infections in patients with diabetes mellitus: bacterial infections

Unit V: Gastrointestinal System

A. Anatomical, physiological, biochemical, microbiological, pathophysiological, and environmental concepts and functions related to the gastrointestinal system.

1. **Principles and fundamentals of anatomy and physiology related to the gastrointestinal system:**
   a. The functions of the gastrointestinal system
   b. Description of the organs of the GI tract
   c. digestion process
   d. Liver
   e. Pancreas
   f. Gallbladder
2. **Principles and fundamentals of Biochemistry related to the gastrointestinal system:**
   a. Chemical composition of saliva and teeth.
   b. Digestive hormones – gastrin, secretin, and CCK.
   c. Composition of Hydrochloric Acid (HCl).
   d. Chemical composition of bile.
   e. Digestive and pancreatic enzymes.
   f. Digestive hormones.
   g. Chemicals in intestinal juice.
   h. Cycle of citric acid (Krebs cycle) in the metabolism of CHO, lipids, and proteins.
   i. Catabolism and anabolism of Glucose- Regulation of blood glucose by different mechanisms.
   j. Protein metabolism.
   k. Liver biochemistry.
3. **Microbiology concepts related to the gastrointestinal system**
   a. Normal microflora of the GI tract.
   b. Most common bacteria that affect the GI tract.
   c. H. pylori bacteria.
   d. Most common viruses that affect the GI tract.

Unit VI: Urinary System

A. Anatomical, physiological, biochemical, microbiological, pathophysiological, and environmental concepts and functions

related to the urinary system, fluids, and electrolytes

1. **Principles and fundamentals of anatomy and physiology related to fluids and electrolytes**
2. **Basic concepts of biochemistry related to fluid and electrolyte balance**
   a. Compartment of body fluids.
   b. Mechanisms that maintain total body fluid homeostasis.
   c. Chemical composition and distribution of electrolytes in body fluids.
   d. Mechanism of action of aldosterone and ECF homeostasis.
   e. Homeostasis of the total body water of the organism.
   f. Hydro-electrolytic regulation mechanism.
   g. Starling's law of capillaries.
   h. Mechanism of regulation of the movement of water and solutes between the ECF and the LIC.
   i. ADH hormone and ECF homeostasis.
   j. Mechanisms that control the pH of body fluids.
   k. Acid-base balance.

V. ACTIVITIES

1. Assessment
2. Development and discussion of care plans
3. Group discussion
4. Cultural Case Studies
5. Independent studies
6. Study guides
7. Supplemental reading
8. Questions and answers
9. Videos

VI. EVALUATION

Criteria	**Score**	**% Final Grade**
Partial Exam #1	100	20%
Partial Exam #2	100	20%
Comprehensive Final Exam #3	100	20%
Assignments and/or Quizzes and/or oral presentations with criteria of evaluation, Study guides, Illustrations, Portfolio, and/or Learning modules.	100	20%
Contacts hours	100	10%
ATI	100	10%
	600%	100%

VII. SPECIAL NOTES

A. **Auxiliary services or special needs**
All students who require auxiliary services or special assistance must request these at the beginning of the course or as soon as they know that they need them through the proper registry in the Office of the Coordinator of Services to Students with Disabilities, Dr. María de los Angeles Cabello, located in the Counseling Program, Room 419, on the fourth floor of the John Will Harris Building, 787-250-1912, extension 2306.

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. The major infractions, as stated in the General Student Regulations, may consequently have suspension from the University for a definite period greater than one year or permanent expulsion from the University, among other sanctions.

C. **Use of electronic devices**
Cellular telephones and any other electronic device that could interrupt the teaching and learning processes or alter the environment leading to academic excellence will be deactivated. Any urgent situation will be dealt with, as appropriate. The handling of electronic devices that allow students to access, store, or send data during evaluations or examinations is prohibited.

D. **Compliance with the provisions of Title IX**
The Federal Higher Education Act, as amended, prohibits discrimination because of sex in any academic, educational, extracurricular, and athletic activity or in any other program or function, sponsored or controlled by a higher education institution, whether it is conducted within or outside the property of the institution if the institution receives federal funds.

In harmony with current federal regulations, in our academic unit an Assistant Coordinator of Title IX has been designated to offer assistance and orientation in relation to any alleged incident constituting discrimination because of sex or gender, sexual harassment, or sexual aggression. The Assistant Coordinator, Mr. George Rivera, can be reached by phone at (787) 250-1912 extension 2147, or by e-mail at grivera@metro.inter.edu.

The Normative Document Titled **Norms and Procedures to Deal with Alleged Violations of the Provisions of Title IX** is a document that contains the institutional rules to direct any complaint that appears to be this type of allegation. This document is available on the Web site of the Inter-American University of Puerto Rico (www.inter.edu).

VII. EDUCATIONAL RESOURCES

Textbooks:

Smeltzer, Bare, Hinkle & Cheever. (2021) Brunner & Suddarth's Textbook of Medical–Surgical. 15th ed. Lippincott, Williams & Wilkins. ISBN: 978-1975161033.

Engelkirk & Duben-Engelkirk. (2018). Burton's Microbiology for the Health Sciences. (11th ed.). Jones & Bartlett Learning. ISBN: 978-1496380463.

Patton, K., Bell, F., Thompson, T., & Williamson, P. (2022). *Anatomy & Physiology*. (11th ed.). Elsevier. ISBN: 978-0323775717.

VIII. BIBLIOGRAPHY (OR REFERENCES)

Integrated Sciences

Engelkirk & Duben-Engelkirk (2018). Burton's Microbiology for the Health Sciences. 11th ed. ISBN 1496380460 / 978-0323528900. Jones & Bartlett Learning.

Norris, T. L. (2019). Porth's Essentials of Pathophysiology. 5th ed. Wolters Kluwer. ISBN: 9781975107192

Swisher, Patton & Thibodeau (2015). Study Guide for Anatomy and Physiology. 9th Edition. Mosby. ISBN: 0323316891 / 978-0323316897.

Patton & Bell (2022). *Anatomy and Physiology Laboratory Manual and E-Labs*. 11th ed. Elsevier. ISBN 0323791069 / 978-0323791069.

Nursing

Bulecheck, Butcher, McCloskey & Wagner. (2012). Nursing Intervention Classification (NIC). (6ta ed.). Elsevier.

Moorhead S., et al. (2012). Nursing Outcomes Classification (NOC) (5th ed.). Elsevier.

NANDA International Nursing (2014). Nursing Diagnoses: Definitions and Classification. 10ma. Edition. Wiley-Blackwell.

Silvestri & Silvestri (2022). Saunders Comprehensive Review NCLEX-RN Examination. 9th ed. ISBN 0323795307 / 978-0323795302. Saunders.

Sites Web

The Cochrane Collaboration
www.cochrane.org

National Guideline Clearinghouse
www.guidelines.gov

Teaching Smart – Learning Easy
Rosalinda Alfaro-Lefebvre
www.alfaroteachsmart.com

Program of Culturally Competent Nursing Care – Cornerstone of Caring
U.S. Department of Health & Human Services
Office of Minority Health
www.thinkculturalhealth.org

TEAM STEPPS model
U.S. Department of Health & Human Services
Agency for Healthcare Research & Quality
http://teamstepps.ahrq.gov/

The Joint Commission – National Patient Safety Goals
http://www.jointcommission.org/PatientSafety/NationalPatientSafetyGoals/

The Joint Commission - Introduction to the Universal Protocol for Preventing Wrong Site, Wrong Procedure, and Wrong Person Surgery™
http://www.jointcommission.org/NR/rdonlyres/868C9E07-037F-433D-8858-0D5FAA4322F2/0/RevisedChapter_HAP_NPSG_20090924.pdf

American Nurses Association
www.nursingworld.org

National Council of State Boards of Nursing (NCSBN)
https://www.ncsbn.org/index.htm

National Institute of Nursing Research
www.ninr.nih.gov

Institute of Healthcare Improvement (IHI)
www.ihi.org

National Cancer Institute
www.cancer.gov/

American Diabetes Association

http://www.diabetes.org/

Braden Scale
https://secure.in.gov/isdh/files/Braden_Scale.pdf

Focus on National Institute on Minority Health and Health Disparities (NIMHD)
http://www.nimhd.nih.gov/

REV. June 2023