

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

**SYLLABUS**

**I GENERAL INFORMATION**

<b>Course title</b>	:	PHARMACOLOGIC ASPECTS
<b>Code and Number</b>	:	NURS 1130
<b>Credits</b>	:	THREE (3)
<b>Academic Term</b>	:	
<b>Teacher</b>	:	
<b>Office Location and Hours</b>	:	
<b>Office Telephone</b>	:	(787) 250-1912 EXT. 2159, 2202
<b>Email</b>	:	

**II. DESCRIPTION**

Discussion of relevant aspects of the study of the pharmacology including the biochemical, physiological, research, and legal aspects. Use of the principles and skills of posology. Application of the nursing process in medication administration. Requires 45 hours of lecture and 30 hours of open presential or virtual lab. Corequisite: NURS 1111.

**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. Use communication skills, critical thinking, and the use of technology to maintain the quality of care offered to the customer. (AAS)
2. Apply skills of communication, collaboration, critical thinking, and the use of technology as a provider and coordinator of care and as a future member of the profession. (BSN)

**GENERAL OBJECTIVES (COURSE STUDENT LEARNING OUTCOMES)**

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

1. Use dosing principles and skills for safe and efficient medication administration.
2. Apply the Nursing Process with a humanistic approach in the safe administration of medications considering their needs, values, preferences, and cultural beliefs.
3. Administer drugs based on patient needs and cultural beliefs.
4. Use effective communication and technology skills when offering quality patient/client care and with the interdisciplinary team.

5. Apply evidence-based knowledge for the decision-making process in medication administration when offering nursing care to the patient/client and family.
6. Apply the general concepts of pharmacology and its implications for safe and efficient nursing practice.

#### **IV. COURSE CONTENT**

##### **A. BASIC CONCEPTS OF PHARMACOLOGY**

1. Pharmacology
2. Historical Background of Pharmacology.
3. Definition of pharmacological terms.
4. Drug Regulation:
  - a. FDA (Food and Drug Administration / Food and Drug Administration).
  - b. Evidence-Based Research.
5. Drug category:
  - a. Therapeutic Classification
  - b. Pharmacological Classifications
6. Drug names:
  - a. Generic
  - b. Commercial
7. Controlled Substances Act of 1970.
7. Preparedness for emergencies.

##### **B. ERROR PREVENTION AND RISK REDUCTION IN ADMINISTRATION**

1. “To Err is Human”.
2. “National Patient Safety Goals” in medication administration.

##### **C. CULTURAL ASPECTS**

1. Cultural
2. Cultural awareness
3. Cultural skills
4. Cultural encounters
5. Cultural desire
6. Cultural self-assessment
7. Madeline Leininger’s Culture Care: Diversity and Universality Theory
8. Herbal and Complementary Theory
9. National Institute on Minority Health and Health Disparities (NIMHD)
10. Humanistic Care

##### **D. NURSING PROCESS IN THE SAFE ADMINISTRATION OF MEDICATIONS**

1. Role and responsibility of the nursing profession in medication administration.
2. The right ones in the safe administration of medications.

3. Application of the Nursing Process.
4. Special Considerations
  - a. Geriatrics
  - b. Pediatric

#### **E. MECHANISMS INVOLVED IN THE ACTIONS OF DRUGS**

1. Pharmacokinetics
2. Pharmacodynamics
3. Drug reactions
4. Biochemical and Physiological aspects: absorption, metabolism, and excretion of drugs.
5. Biological barriers
6. Fundamentals of drug-receptor interaction.

#### **F. THERAPEUTIC CATEGORIES OF FUNCTIONAL HEALTH PATTERNS**

1. Pattern: Nutritional - Metabolic.
2. Pattern: Elimination.
3. Pattern: Health Perception and Management.
4. Pattern: Cognitive - Perceptual.
5. Pattern: Activity - Exercise.

#### **G. DOSAGE CONTENT**

1. PRINCIPLES AND SKILLS IN THE ADMINISTRATION OF MEDICATIONS AND POSOLOGY
  - a. Interpretation of medical orders – Parenteral.
  - b. Interpretation of drug labels and packaging – Intravenous.
  - c. Dosing system, transcription, and documentation in medication administration.
  - d. Equipment and materials necessary for the preparation of the dose.
  - e. Topical and oral medications.
    1. Solid and liquid dose calculation.
    2. Oral and mucous membrane drug delivery.
  - f. Parenteral drugs
    1. Injectable liquids.
    2. Management techniques.
  - g. Intravenous
    1. IV calculation
  - h. Transcript and documentation of medication administration.

#### **V. ACTIVITIES**

- A. Small and large group discussion.
- B. Digital Assignments (Blackboard).

- C. Digital Study Guides (Blackboard).
- D. Assigned readings.
- E. Cultural Case Studies
- F. Use of anatomical models.
- G. Simulated drug administration practice.
- H. ATI practice.

## VI. EVALUATION

Criteria	Score	% Final Note
Partial Exam #1	100	15%
Partial Exam #2	100	15%
Comprehensive Final Exam # 3	100	20%
Academic activities	100	20%
Posology Modules	100	15%
Documentation	100	5%
ATI	100	5%
Contact hours	100	5%
<b>TOTAL</b>	<b>900</b>	<b>100</b>

## 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 constitutes major infractions sanctioned by the General Student Regulations. The major infractions, as stated in the General Student Regulations, may have consequently been suspended from the University for a definite period greater than one year or the 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 or not it is conducted within or outside the property of the institution if the 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](mailto: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](http://www.inter.edu)).

## VII. EDUCATIONAL RESOURCES

### Textbooks:

Adams, Holland & Urban (2019). *Pharmacology for Nurses: A Pathophysiological Approach*. 6<sup>th</sup> ed. New Jersey: Pearson Prentice Hall. ISBN: 0135218330 / 9780135218334.

Adams, Holland & Urban (2019). *Student Workbook and Resource Guide for Pharmacology for Nurses: A Pathophysiologic Approach* 6<sup>th</sup> ed. New Jersey: Pearson Prentice Hall. ISBN: 0135645832 / 978-0135645833.

Buchholz (2019). *Henke's MED-MATH: Dosage Calculation, Preparation & Administration*. 9<sup>th</sup> edition. Lippincott Williams & Wilkins. ISBN: 1975106520 / 978-1975106522.

## VIII. BIBLIOGRAPHY (OR REFERENCES)

Brenner, G. (2019). *Flashcards of Basis Pharmacology* (4a ed.). DRK Edition SL.

Engelkirk & Duben-Engelkirk. (2018). *Burton's Microbiology for the Health Sciences*. (11<sup>th</sup> ed.). Jones & Bartlett Learning. ISBN: 1496380460 / 978-1496380463.

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

Patton & Thibodeau (2018). *Anatomy & Physiology*. 10<sup>th</sup> ed. Mosby. ISBN 0323528902 / 978-0323528900.

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

## **IX. ELECTRONIC RESOURCES**

Campinha-Bacote Cultural Competencies Model <http://transculturalcare.net/the-process-of-cultural-competence-in-the-delivery-of-healthcare-services/>

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

Introduction to Patient Centered-Care (PCC) [https://idainstitute.com/what\\_we\\_do/pcc\\_definitions/](https://idainstitute.com/what_we_do/pcc_definitions/)

**REV. June 2023.**