

# NUR 414 : PATHOPHYS, PHARMACOLOGY, & ADVANCED PHYSICAL ASSESSMENT IN NURSING

## Transcript title

3Ps of Professional Nursing

## Credits

6

## Grading mode

Standard letter grades

## Total contact hours

60

## Lecture hours

60

## Course Description

Offers an in-depth exploration of the three foundational pillars of nursing practice: Pharmacology, Pathophysiology, and Physical Assessment. Through this course, students will develop a thorough understanding of the pharmacological principles related to drug action, administration, and interactions; the pathophysiological mechanisms underlying various diseases and conditions; and the skills necessary to conduct comprehensive physical assessments. Students will learn to identify and interpret clinical signs and symptoms, understand the physiological processes that lead to disease, and apply pharmacological knowledge to manage patient care effectively. Emphasis is placed on integrating these three domains to formulate evidence-based, patient-centered care plans. By the end of the course, students will be prepared to assess complex clinical situations, make informed decisions, and contribute to improved patient outcomes in various healthcare settings. This course will highlight the integration and application of the three disciplines, preparing students for real-world clinical practice.

## Course learning outcomes

1. Understand and apply key pharmacological principles, including drug mechanisms, side effects, contraindications, and interactions, to create safe and effective medication regimens tailored to individual patient needs.
2. Demonstrate a comprehensive understanding of the pathophysiological processes underlying common diseases and conditions, enabling them to anticipate clinical manifestations and potential complications in patient care.
3. Develop and refine their physical assessment skills, performing systematic and thorough evaluations of patients' physical, emotional, and mental health to accurately identify and document clinical findings.
4. Integrate knowledge from pharmacology, pathophysiology, and physical assessment to critically analyze patient data, identify priority issues, and make informed, evidence-based clinical decisions to enhance patient outcomes.
5. Demonstrate the ability to synthesize information from physical assessments, pharmacological considerations, and pathophysiological insights to develop holistic, patient-centered care plans that address the diverse needs of individuals across the lifespan.

## Content outline

1. Introduction to the 3Ps:
  - a. Overview of pathophysiology, pharmacology, and physical assessment
  - b. The role of the nurse in integrating the 3Ps
  - c. Introduction to the physical assessment and equipment
2. Cellular Function and Genetics:
  - a. Cellular adaptation, injury, and death
  - b. Genetic and congenital disorders
  - c. Basic pharmacological concepts: drug actions and interactions
  - d. Vital signs measurement and general survey techniques
3. Inflammation and Healing:
  - a. Inflammatory response and tissue repair
  - b. Pharmacology of anti-inflammatory and immunosuppressive drugs
  - c. Skin assessment and wound evaluation
4. Immunity and Infection:
  - a. Immune system function and disorders
  - b. Pathogens and infection control
  - c. Antibiotics and antiviral medications
  - d. Assessment of lymph nodes and immune function
5. Cardiovascular System:
  - a. Pathophysiology of hypertension, heart failure, and arrhythmias
  - b. Pharmacology: antihypertensives, diuretics, antiarrhythmics
  - c. Cardiovascular assessment: heart sounds, pulses, capillary refill
6. Respiratory System:
  - a. Disorders like asthma, COPD, pneumonia
  - b. Pharmacology: bronchodilators, corticosteroids
  - c. Respiratory assessment: lung sounds, respiratory patterns
7. Neurological System:
  - a. Neurodegenerative diseases, strokes, seizures
  - b. Pharmacology: anticonvulsants, neuroprotective agents
  - c. Neurological examination: cranial nerves, motor and sensory function
8. Endocrine System:
  - a. Diabetes, thyroid disorders, adrenal dysfunction
  - b. Pharmacology: insulin, thyroid medications
  - c. Endocrine assessment: blood glucose monitoring, thyroid palpation
9. Gastrointestinal System:
  - a. Disorders like ulcers, liver diseases, IBS
  - b. Pharmacology: antacids, laxatives, antiemetics
  - c. Abdominal assessment: inspection, auscultation, palpation, percussion
10. Renal and Urinary Systems:
  - a. Acute and chronic kidney diseases
  - b. Pharmacology: diuretics, medications affecting renal function
  - c. Assessment of urinary output, edema, electrolyte imbalances
11. Musculoskeletal System:

- a. Arthritis, osteoporosis, musculoskeletal injuries
  - b. Pharmacology: analgesics, anti-inflammatory drugs
  - c. Musculoskeletal assessment: joint function, muscle strength
12. Reproductive Health:
- a. Reproductive system disorders
  - b. Pharmacology: hormonal therapies, contraceptives
  - c. Assessment techniques for male and female reproductive health
13. Integrative Case Studies:
- a. Complex case studies integrating pathophysiology, pharmacology, and assessment
  - b. Simulation scenarios requiring full assessment and care planning

## Required materials

Textbook required.