



NURS-501: PATHOPHARMACOLOGY

Effective Term

Fall 2024

BOT Approval Date

01/11/2024

Discipline

NURS - Nursing

Course Number

501

Course Title

Pathopharmacology

Short Title

Pathopharmacology

Credit Status (CB 04)

D - Credit - Degree applicable

Units**Lecture Units**

2.00

Total Units

2

Hours**Lecture Contact Hours**

32-36

Out of Class Hours Lecture

64-72

Total Contact Hours

32 - 36

Total Out of Class Hours

64 - 72

Total Student Learning Hours

96 - 108

Distance Education

No

Catalog Description

This course combines two related nursing concepts of pathophysiology and pharmacology. This course will introduce students to pathophysiology relates manifestations of the disease, risk factors for disease, complications, and the principles of pathology underlying illness and injury to therapeutic nursing interventions and outcomes. Pharmacology portion focuses on the basic drug classification, concepts, and principles of pharmacology with emphasis on consideration for the nursing role in developing a comprehensive approach to the clinical application of drug therapy through the use of the nursing process to enhance clinical judgement. Nursing implications relative to the utilization of drug therapy are described, discussed, and examined.



Requisites

Prerequisite(s)

Prerequisite(s) (must be taken before)

Admission to the Associate Degree Nursing Program.

Corequisite(s)

Corequisite(s) (must be taken simultaneously)

NURS-502

and NURS-571

Codes

TOP Code (CB 03)

1230.10* - *Registered Nursing

CIP Code

51.3803 - Adult Health Nurse/Nursing.

Student Accountability Model (SAM) Priority Code (CB 09)

C - Clearly Occupational

Noncredit Category (CB 22)

Y - Credit Course

Repeatability Code

No

Grading Option

Letter grade OR P/NP

Minimum Qualifications

Minimum Qualifications	And/Or
Nursing (Masters Required)	End

CSU Area(s)

IGETC Area(s)

Learning Objectives

Learning Objectives

Learning Objective
1. Define basic pharmacological terminology.
2. Apply general concepts of pharmacokinetic and pharmacodynamic processes and their application in drug therapy and the nursing process.
3. Recognize significant adverse drug reactions, drug-drug, and drug-nutrient interactions throughout life span.
4. Describe major classifications of drugs used in current treatment of selected diseases.
5. Provide patient teaching regarding drug therapy that reflects access, developmental stage, age, diverse culture, and spirituality.
6. Apply principles of normal anatomy and physiology of human body systems to the pathophysiologic processes of common health problems.
7. Identify concepts, principles, and responses related to pathophysiologic processes that result in diseases and pathophysiologic alterations.

Learning Outcome Information

Course Learning Outcomes

Learning Outcome

1. Students will discuss selected disease processes, clinical manifestations, complications, and therapeutic nursing interventions.
2. Students will apply general concepts of pharmacokinetic and pharmacodynamic process and their application in drug therapy and nursing process.
3. Students will analyze and apply the process of safe medication administration for diverse populations.
4. Students will discuss the principles of normal anatomy and physiology of human body systems to the pathophysiologic processes of common selected health problems.
5. Students will discuss the nurse's role and responsibility for assessment and administration of individuals experiencing health problems that required safe medication treatments.

Program Learning Outcomes

Learning Outcome

1. Provide patient centered care to diverse patients with various health related conditions, using the nursing processes, cultural competence, and compassion based on respect for individual preferences t the entry level registered nurse generalist.
2. Effectively facilitate inter-professional relationships by promoting open communication, advocacy, and shared decision-making to enhance knowledge, experience, and health outcomes at the entry level registered nurse generalist.
3. Demonstrate accountability as a lifelong learner for the delivery of evidence based practice when planning holistic care to achieve optimal outcomes for the patient, family, and community at the entry level registered nurse generalist.
4. Apply legal, ethical, and regulatory principles to participate in improvement processes including the use of data to design, implement and evaluate outcomes to improve the quality and safety of healthcare systems at the entry level registered nurse generalist.
5. Demonstrate commitment, accountability, integrity, critical thinking and discretionary judgment in nursing practice to minimize risk of harm to patients, the healthcare team, and the community at the entry level registered nurse generalist.
6. Utilize nursing science, information management, and technology to communicate, organize date, mitigate error, and institute change while protecting patient health information at the entry level registered nurse generalist.
7. Function as a member of the inter-professional team and demonstrate leadership qualities such as effective communication, collaboration, delegation, and constructive feedback to manage and coordinate care at the entry level registered nurse generalist.
8. Address implicit biases and equity gaps that exist in the healthcare environment considering global, national, and local concerns to improve outcomes at the entry level registered nurse generalist.

Institutional Learning Outcomes

Communication: The student will effectively express and exchange ideas through listening, speaking, reading, writing, visual works, and other modes of interpersonal expression.

Critical Thinking: The student will analyze problems, gather and synthesize relevant information, evaluate ideas, information, and evaluate alternative points of view to create, innovate and implement effective solutions.

Cultural Awareness and Humility: The student will demonstrate knowledge of and sensitivity toward individuals of diverse ethnicity, age, gender, sexual orientation, and religious affiliations, as well as toward those individuals with diverse abilities and socio-economic classes to respectfully interact with individuals of diverse perspectives, beliefs and values while being mindful of the limitation of their own cultural frameworks.

Information and Technology Literacy: The student will access, interpret, evaluate, and apply relevant information sources and digital media effectively, and in an ethical and legal manner.

Scientific Awareness: The student will apply the scientific method of inquiry to assess potential solutions for real-life challenges by employing science-based knowledge and methodologies in daily life.

Social Awareness: The student will recognize and analyze the interconnectedness of global, national, and local concerns, analyzing cultural, political, social, and environmental issues from multiple perspectives and appreciate similarities and differences among cultures.

Civic

Personal

and Professional Responsibility

Content

Course Lecture Content

1. Concepts of Disease and Mechanism of the Diseases
 - a. **Cultural Perspectives in Healthcare**
 - i. Example: Native American Healing Practices:
 - Exploring traditional healing ceremonies or herbal remedies for pain relief.
 - Integrating spiritual and natural remedies for chronic pain
 - ii. Emphasizing holistic approaches focusing on healing's mental, physical, and spiritual aspects.
 - b. **Incorporating Cultural Understanding into Treatment Plans**
 - i. Examples:
 - Collaborating with patients to integrate traditional healing practices (e.g., herbal remedies, ceremonies) into treatment plans where suitable
 - ii. Addressing biases and fostering a culturally sensitive approach to healthcare delivery
 - c. **Holistic Healthcare Delivery**
 - i. Examples:
 - Emphasizing a comprehensive approach beyond physical symptoms.
 - ii. Recognizing and respecting diverse cultural beliefs and practices.
 - d. **Patient-Centered Care and Respect for Diversity**
 - i. Examples:
 - Encouraging open communication with patients about their cultural beliefs and preferences.
 - Adapting treatment plans to incorporate patients' cultural backgrounds and preferences.
 - ii. Demonstrating respect for diverse perspectives in healthcare delivery.
 - e. **Ethical Considerations in Diverse Healthcare Settings**
 - i. Examples:
 - Ethical discussions on providing equitable care across diverse patient populations.
 - ii. Examining ethical dilemmas related to cultural beliefs and healthcare practices.
2. Concepts of Pharmacology
 - a. **Safe Medication Administration**
 - i. Examples: demonstrating proper dosage calculations, administering medications through different routes (e.g., oral, intravenous), and adhering to safety protocols (checking patient identification, verifying medications).
 - ii. Discuss 3 checks of medication administration
 - iii. Discuss 7 rights of medication administration
 - iv. Legal and ethical responsibilities for the Safe medication administration process.
3. Pathopharmacology of the Cardiovascular System
 - a. Common coronary artery disease (CAD)
 - b. Discuss heart failure
4. Pathopharmacology of the Endocrine System
 - a. Common endocrine dysfunctions
 - b. Diabetes
 - c. Thyroid
 - d. Adrenal/fluid regulation
5. Pathopharmacology of the Musculoskeletal System
 - a. Common musculoskeletal systems such as arthritis
 - i. Osteoarthritis
 - ii. rheumatoid arthritis
6. Pathopharmacology of the Urinary System
 - a. Urinary incontinent
 - b. Urinary infection
7. Pathopharmacology of the Nervous System
8. Gastrointestinal Diseases and medications
 - a. Gastrointestinal reflux disease (GERD)
 - b. Gastrointestinal bleed (GIB)
 - c. Peptic ulcer disease (PUD)
9. Pathopharmacology of the Respiratory System

- a. Upper respiratory infection
 - b. Chronic obstruction pulmonary disease
 - c. Pneumonia
10. Pathopharmacology of the Eyes and Ears
- a. Ear infection
 - b. Cataract
 - c. Glaucoma
11. Cancer and Antineoplastic Pharmacology
- a. Colon cancer
 - b. Lung cancer
 - c. Pancreatic cancer
 - d. Liver cancer
12. Pathopharmacology of the Integumentary System
- a. Skin infection
 - b. Burn

Methods of Instruction

Method

Directed Study

Integration

Face to face lecture and demonstration will be used to present information about the fundamentals wellness, diseases and medication usages, mechanism of actions, side effects, and potential complications. The lecture will be provided through PowerPoint slides, case studies, and concept maps.

Method

Reading

Integration

The student is expected to complete reading assignments from the required textbook, which will be followed by classroom discussions aimed at fostering the critical thinking skills essential for a beginning nursing student to produce safe and effective nurses with moral, legal, and ethical standards.

Method

Discussion

Integration

Classroom and group discussions are designed to cultivate the critical thinking skills essential for nursing students to achieve excellence in producing high-quality, safe, and effective nurses. These discussions encompass various topics, including selected diseases and treatments, the impact of medications on diverse populations. These discussions also focus on medication administration practices that account for the diverse characteristics of patients from different racial and cultural backgrounds, different gender identities, and disabilities thus ensuring equitable care for all patients.

Method

In-class Exercises

Integration

In-class exercises will promote student understanding of the selected disease processes and safe medication knowledge and medication administration. In-class exercises include, but are not limited to, using critical thinking skills to determine how to protect patients from harm through safe medication administration process and techniques. In-class exercises such as group projects, creation of medication cards, and presentation provide the students an opportunity to determine their retention and understanding of concepts.

Method

Observation and Demonstration

Integration

Students in NURS-501 will undergo field observation by observing other more advanced nursing students prepare and administered medications in skills lab. These students will be able to use theory on safe medication administration in class.

Methods of Evaluation**Method**

Exams/Tests

Integration

Exams/tests will be used to measure competency of disease processes, medication knowledge, legal obligation of safe medication administration. Exams will be given to measure student understanding of the subject matter and the ability to analyze contributions to a disease processes, safe and appropriate treatment.

The exams will be multiple choice answers to help prepare the students to pass the National Council Licensure Examination for Registered Nurses (NCLEX-RN) exam which is also in multiple choice format. Exams/tests are graded on accuracy.

Method

Homework

Integration

Homework is assigned to help the students review the material presented in lecture. Homework topics include practice problems for basic dosage calculation, creating medication cards, and concept map of the disease processes. As an option, the homework can also be done in class in small groups to promote discussion and interactions among the students. The homework assignment is also an opportunity to determine if the student adequately understands the concepts. Homework is graded for accuracy and completion.

Method

Oral Presentation

Integration

Students will be assigned in to groups to create presentation of the selected disease processes and pharmacological treatments with the use of PowerPoint slides. During group presentation, students will need to analyze safe medication administration or considerations for diverse population in cultural, religion, age, gender, and weight. Proper grammar, syntax, and spelling will also be evaluated.

Assignments

Assignment Type

Writing

In-class and/or outside of class

Outside of class

Formative or Summative

Formative

Assignment

Read, analyze, and create medication cards on the specific medications selected. These medication cards will be used to narrow down the overwhelming number of medications use in healthcare. This will provide sizeable number of medications for students to start learning and building their knowledge and critical thinking.

Accuracy and Clarity :

Ensure that the medication cards created are accurate, well-structured, and easy to understand. The components that needed to address are classification of the medication, mechanism of actions, side effects, potential complications, and nursing assessment needs prior to the administration of this medication.

Submit the assignment by the specified deadline, ensuring that identification and explanations are accurate and easy to follow. This assignment will be graded based on the correctness of your identification and the clarity of explanations regarding required components.

Assignment Type

Reading

In-class and/or outside of class

Outside of class

Formative or Summative

Formative

Assignment

Read the Pathopharmacology text titled " Pathopharmacology". This book provides information about the diseases, risk factors, symptoms of the medical condition, and medical treatments. There will be optional book available for students who are visual learner called " Pathophysiology made visual". Students will review the major concepts and summarize the key points with the class and during presentation. These insights will serve as the basis for an in-class discussion.

Opinions and Insights:

Share your personal opinions, insights, and reflections on the assigned reading contents. Discuss what the student learned and analyze potential problems from the treatments. Provide real-world examples or scenarios if applicable to illustrate your points.

Class Discussion:

Come to class prepared to engage in a discussion about the assigned reading. Be ready to share your summarized key points and opinions, and actively participate in the conversation.

Please ensure that you read the text book thoroughly, summarize its key points, and formulate thoughtful opinions for our in-class discussion. Your active participation and contributions during the discussion will also be considered in your assignment evaluation.

Assignment Type

Writing

In-class and/or outside of class

Outside of class

Formative or Summative

Formative

Assignment

Read, research, analyze, and create concept maps on the specific disease processes selected. These concept maps of the disease processes will be used to narrow down the overwhelming disease processes in healthcare. This will provide sizeable number of medical conditions for students to start learning and building their knowledge and critical thinking to help promote success for the future nursing courses.

Accuracy and Clarity :

Ensure that the concept map created are accurate, well-structured, and easy to understand. The components that needed to address are define the select disease, list risk factors of this medical condition, common signs and symptoms, common treatments, and potential complications of this medical condition.

Submit the assignment by the specified deadline, ensuring that identification and explanations are accurate and easy to follow. This assignment will be graded based on the correctness of your identification and the clarity of explanations regarding required components.

Course Materials**Textbooks**

1. Lippincott Williams and Wilkins (2005). Clinical Pharmacology made incredibly Easy. (2nd edition). Philadelphia: Wolters Kluwer Company ISBN1-58255-293-2
2. McCance, K.L. and Huether, S.E., (2006). Pathophysiology: The Biologic Basis for Disease in Adults and Children. (5th edition). St. Louis: Elsevier Mosby ISBN-13: 978-0-3230-3507-1, ISBN 10: 0-323-03507-8

Note-There are very few Pathopharmacology books available. Therefore, the textbook may be outdated. However, other resources and textbooks will be provided/used to ensure current and relevant information*

Other Resources

KAPLAN Resources

Open Educational Resources

Nonapplicable

Class Size Information**Class Size**

40

Class Size Category

A - Lecture/discussion 40

Diversity and Inclusion

Explain how diversity and inclusion(e.g., gender, culture/race, sexuality, etc.) is infused into the course.

This course content aims to equip students with the knowledge and skills necessary to provide safe, equitable, and culturally sensitive healthcare. Examples provided within each content area illustrate practical applications and scenarios encountered in real-world healthcare settings.

In-class discussion of health and illnesses with treatments for different patient populations. The students share and discuss diverse patient populations that include and not limited to age, gender, race, and culture putting these populations for different medical conditions and treatments. The second half of the assignment will on comparing and contrasting culture/race, disease process, home remedies, folk medicine, and modern treatments. The last portion of this assignment is a discussion on health disparity and health access among the selected diverse group.

Describe how assignments, instruction, evaluation, course content, and interactions are contextualized for diverse learners promoting an equitable course.

Class discussion and case study:

In the Pathopharmacology N501 course, a core objective is to integrate diversity and inclusion principles into healthcare practices. The curriculum promotes culturally sensitive care by encouraging students to dive into diverse cultural perspectives relevant to pharmacology and pathophysiology. Through interactive discussions and case studies, students are prompted to explore a range of cultural backgrounds, traditions, and beliefs that intersect with pharmacological and pathophysiological contexts. For instance, students may examine the influence of Ayurveda on herbal remedies in South Asian cultures, explore cultural attitudes towards pain management and medication adherence among Native American communities, understand the impact of traditional Chinese medicine in addressing various health conditions, or analyze the cultural implications of diet and lifestyle in Hispanic populations affecting disease pathophysiology.

These immersive learning experiences aim to broaden students' understanding of the multifaceted cultural landscape within healthcare. Students cultivate an enhanced sensitivity to cultural nuances and their impact on pharmacological interventions and disease processes by engaging with diverse cultural perspectives. This prepares them to deliver more effective and culturally competent care when working with patients from diverse backgrounds in clinical settings. This approach provides examples that highlight diverse cultural influences on healthcare, encouraging students to explore a variety of cultural perspectives within the context of pharmacology and pathophysiology.

Lecture:

Lecture materials are thoughtfully designed to accommodate a diverse range of learning preferences. Multiple formats are employed, such as PowerPoint slides and textbook readings, to accommodate visual learners, while verbal communication from the instructor accommodates audio learners. Additionally, students are encouraged to collaborate in small groups to complete assignments. This approach fosters interaction among students, promoting personal and cultural connections in the learning process

Group Project:

For group projects, students will be assigned a group project to incorporate some strong, moderately strong, and weak students to enhance students' understanding and success on diversity and inclusion. The students will be assigned to analyze different groups of underserved populations in different parts of southern California. Students will be asked to discuss common health problems and medication needs.

Interactions

Explain how the course will incorporate student-to-student interaction.

In-class or out of class assignments on creating concept map of the selected disease process on a diverse patient population. This assignment will be completed collaboratively by students in small groups. These assignments are structured to encourage discussions and foster meaningful interactions among students.

Explain how the course will incorporate instructor-to-student interaction.

Instructors interact through face to face lectures where students may ask questions about disease processes among diverse population, different culture, medical treatments, and potential common complications. Instructors offer feedback based on their professional insights and personal experiences when addressing the nursing Code of Ethics and legal responsibilities for pharmacological treatments. Additionally, instructors play a pivotal role in guiding students to develop critical thinking skills, enabling them to determine the most effective strategies for safe and effective care among the diverse cultural and racial contexts, with particular attention to very old and very young patient populations.

Explain how the course will incorporate student-to-content interaction.

Each week, students are assigned reading and written assignments. This course has a detailed textbook which supports the lecture material and includes information on health, disease processes, treatments that also include medications. Students will also have access to PowerPoint presentations and supplemental materials through the course management system, such as Canvas.

Explain how the course will incorporate student-to-self interaction (metacognitive).

This course requires reading, discussion, and analysis of the diseases and treatments. Students will need to focus, analyze, apply knowledge of medical conditions to ensure safe and effective care to diverse patient population through the knowledge of evidence-based care.

Key: 3063