LOS ANGELES COUNTY COLLEGE OF NURSING AND ALLIED HEALTH
School of Nursing

Nursing 231:

NURSING PHARMACOLOGY

SPRING 2023

COURSE TITLE:	**N231 Nursing Pharmacology**
PRE-REQUISITES:	Completion of course requirements for Semesters 1 and 2.
UNITS:	1 unit
HOURS:	Approximately 3 hours per week
LENGTH:	7 weeks
PLACEMENT:	Semester 3
CONCURRENCY:	All nursing courses within a semester must be taken concurrently.
COURSE DESCRIPTION:	This course builds on basic pharmacological principles to develop an understanding of the clinical use of pharmacological agents. This course will provide students with an understanding of pharmacotherapeutics for selected disease states, which can be applied in the clinical setting. Emphasis will be on geropharmacology, psychotropic drugs, cardiovascular drugs, ophthalmic drugs, antiepileptics (antiseizure), drugs affecting the autonomic and central nervous systems.
COURSE OBJECTIVES:	Upon satisfactory completion of the course, the student will:

1. Integrate the nursing process in understanding the mechanism of action, therapeutic dose, indications, adverse reactions, and nursing implications of selected pharmacological agents for safe patient-centered care of individuals with common health problems.
2. Analyze therapeutic communication techniques and incorporate nursing informatics to accomplish goals for individuals, families and groups with mental health and medical surgical problems.
3. Analyze importance of establishing collaborative relationships with members of the healthcare team for the purpose of providing and improving the safety of medication administration.
4. Analyze the legal/ethical implication of medication administration to improve the quality of care for individuals with common medical and mental health problems.
5. Analyze aspects of decision-making for safe medication administration.
6. Examine the educational needs and teaching methodologies using current evidence-based practice regarding drugs and the implications for individuals with common medical and mental health problems.
7. Compare sociocultural variables of individuals with common medical and mental health problems in relation to practices and beliefs about medications.

STUDENT LEARNING: OUTCOMES: Students competently identify the implementation and integration of pharmaco-therapeutic concepts taking into consideration legal/ethical implications, client educational needs, and sociocultural variations needed in the safe administration of medication to clients with common health problems in acute, ambulatory care, and psychiatric care settings.

TEACHING METHODS: Lectures with discussion, audiovisuals, and reading materials.

METHOD OF EVALUATION: Students attain an overall cumulative score of 70% or higher on exams and quizzes indicating attainment of student learning outcome.

Grade is calculated from:

- One quiz consisting of 10 questions worth 5% of the total grade.
- Three exams each consisting of 50 questions worth 95% of total grade. Exams #1 and #3 are 33% each. Exam #2 is worth 29% of the total grade.

GRADING SCALE: The percentage grading scale is used as the method of scoring and determining final grade in course. (See student handbook on grading policy)

REQUIRED READINGS & INSTRUCTIONAL REFERENCES:

G. Frandsen, S. S. Pennington (2018) *Abrams' Clinical Drug Therapy; Rationales for Nursing Practice (12th ed.)*

Swearingen, L. Pamela, & Wright, J. (2019). *All-in-One Nursing Planning Resource*. St. Louis: Elsevier

Townsend, M.C., Morgan, K. I. (2021). *Psychiatric mental health nursing: Concepts of care in evidence-based practice (10th ed.).* Philadelphia: F.A. Davis.

Lippincott Advisor for Education: Drugs
Lippincott Nursing Drug Handbook Mobile App
www.micromedixsolutions.com/micromedexx2/librarian
www.dynamed.com/drugsbrowse
www.fda.gov : Drugs
www.micromedex.com

All academic policies are strictly enforced.

For any conflict or issue, student must first meet with their respective instructor to discuss a solution. If issues are not resolved, student must adhere to the appropriate chain of command starting with the semester coordinator; Director, OES; Dean, SON; and lastly the Provost

How to Access Lippincott CoursePoint+:

To have your students enroll, send them the class code and the following instructions. You can simply copy and paste the text below.

1. If you don't already have access to Lippincott CoursePoint+ for Frandsen & Pennington: Abrams' Clinical Drug Therapy: Rationales for Nursing Practice, Twelfth Edition., redeem your **ACCESS CODE** and complete registration at http://thePoint.lww.com/activate.
2. Once you have redeemed your Access Code and are logged in to thePoint, from the **"My Content"** page, click **Launch CoursePoint** for Lippincott CoursePoint+ for Frandsen & Pennington: Abrams' Clinical Drug Therapy: Rationales for Nursing Practice, Twelfth Edition..
3. On the content homepage, select "Join a Class", enter your **CLASS CODE: 94AAAA52**, and click "Join this Class"
4. If you experience any problems, check the code again and re-enter it. If it does not work, contact Lippincott Online Product Support at
5. 1-800-468-1128 or techsupp@lww.com for assistance.
6. Not sure what an ACCESS CODE is?
7. Learn more at http://thepoint.lww.com/Help/BookAccess.

Unit Title: **Medications Used to Restore Mental Health (Antidepressants and Mood Stabilizers)**		
Objectives	**Content Outline**	**Student Activities**
A. Analyzes the implementation of the nursing process in the safe administration of antidepressants. 1. Identifies the general classifications of antidepressants 2. Discusses the pharmacodynamics/pharmaco-kinetics of antidepressants 3. Describes the nursing implications with emphasis on the teaching points in the use of antidepressants	A. Analyzing Implementation of Antidepressants 1. Classification • Tricyclic antidepressants (TCA) • SSRI • MAOI • SNRI • Atypical 2. Mechanism of action/pathophysiology • Indication/contraindication • Side/adverse effects 3. Nursing Implications/Client education • Assessment • Planning • Implementation • Evaluation	**<u>Required Reading:</u>** Frandsen (12th ed.) Chapter 55
B. Analyzes the implementation of the nursing process in the safe administration of mood stabilizers 1. Identifies the general classifications of mood stabilizers-commonly used medications 2. Discusses the pharmacodynamics/ pharmacokinetics of mood stabilizers. 3. Discusses the nursing implications with emphasis on the teaching points.	B. Mood stabilizers 1. Classifications Lithium • Antipsychotics • Others-Anticonvulsants 2. Mechanism of action/pathophysiology • Indication/co9ntraindication • Side/adverse effects 3. Nursing Implications/Client education • Assessment • Planning • Implementation Evaluation	

Unit Title: Medications Used to Restore Mental Health (Antipsychotics & Anxiolytics)		
Objectives	**Content Outline**	**Student Activities**
A. Analyzes the implementation of the nursing process in the promotion and maintenance of system stability for individuals receiving antipsychotic medications 1. Discusses the pharmacodynamics/ pharmacokinetics of antipsychotics. 2. Differentiates the different types of antipsychotics. 3. Discusses the adverse reactions to antipsychotics and related management	A. The nursing process in the promotion and maintenance of system stability for individuals receiving antipsychotic medications. 1. Mechanism of action R/T psychopathology Indication for use • Contraindications • Laboratory testing • Adverse effects 2. Types First generation (typical) • Phenothiazines • Chlorpromazine • Fluphenazine • Trifluoperazine • Nonphenothiazines • Haloperidol • Thiothixene Second generation (atypical antipsychotics) • Clozapine • Aripiprazole • Olanzapine • Lurasidone • Risperidone • Paloperidone • Quetiapine • Ziprasidone 3. Adverse reactions & Management Reactions • Extrapyramidal effects • Agranulocytosis • Neuroleptic Malignant Syndrome • Metabolic syndrome	**<u>Required Reading:</u>** Frandsen (12th ed.) Chapter 56, pp. 1115-1134

Unit Title: **Medications Used to Restore Mental Health (Antipsychotics & Anxiolytics)** (Cont'd)		
Objectives	**Content Outline**	**Student Activities**
4. Describes the nursing implications in the safe administration of antipsychotics with emphasis on the teaching points.	▫ Management of adverse reactions • Benztropine • Trihexyphenidyl 4. Client education	**<u>Required Reading</u>** Frandsen (12th ed.) Chapter 48, pp. 961-962
B. Analyzes the implementation of the nursing process in the promotion and maintenance of system stability for individuals receiving anxiolytics medications.	B. The nursing process in the promotion and maintenance of system stability for individuals receiving anxiolytic medications.	**<u>Required Reading</u>** Frandsen (12th ed.) Chapter 54, pp. 1075-1091
1. Discusses the pharmacodynamics/ pharmacokinetics of anxiolytics.	1. Mechanism of action • Indication for use • Contraindications • Laboratory testing • Adverse effects	
2. Lists the different types of anti-anxiety medications.	2. Medications: ▪ Benzodiazepines • Diazepam • Alprazolam • Chlordiazepoxide • Lorazepam • Midazolam • Temazepam ▪ Nonbenzodiazepines • Eszoplicone • Ramelteon • Zaleplon • Zolpidem ▪ Herbal supplements (in lecture) • St. John's Wort • Melatonin • Valerian	
3. Describes the relevant nursing implications including teaching in the administration of anxiolytics.	3. Nursing Implications/Client education	

Unit Title: Drugs Affecting the Central Nervous System		
Objectives	**Content Outline**	**Student Activities**
A. Analyze the implementation of the nursing process in the promotion and maintenance of system stability for individuals receiving pharmacologic agents for seizure disorders: 1. Identifies the general classifications of anticonvulsants 2. Discusses the pharmacodynamics/ pharmacokinetics of the commonly used anti-seizure drugs 3. Recognizes factors that influence choice of anti-seizure drugs for a specific seizure disorder. 4. Describes nursing implications including teaching points of anti-seizure drugs.	A. Analyzing implementation of seizure medication 1. Seizure disorder drugs • Barbiturates • Benzodiazepines • Succinimides • Hydantoins • Iminostilbene ▪ Miscellaneous • Levetiracetam, Topiramate, • Pregabalin, Zonisamide, Gabapentin 2. Pharmacodynamics/pharmacokinetics 3. Factors to consider in choosing an anti-seizure drug • Age • Comorbidities • Tolerance 4. Nursing Implications/Client Education	**<u>Required Reading:</u>** Frandsen (12th ed.) Chapter 53 pp. 1036-1064 Note related Key Concepts at end of chapter

Unit Title: **Drugs Affecting the Central Nervous System** (Cont'd)		
Objectives	**Content Outline**	**Student Activities**
B. Analyzes the implementation of the nursing process in the promotion and maintenance of system stability for individuals receiving anti-Parkinson drugs. 1. Differentiates dopaminergic drugs from anticholinergic drugs. 2. Discusses the pharmacodynamics/ pharmacokinetics of anticholinergic drugs and dopaminergic drugs in the treatment of Parkinson's disease. 3. Describes nursing implications and provides teaching points on the pre- and post-administration of dopaminergic and anticholinergic drugs.	B. Analyzing implementation of Parkinson's medication 1. Parkinson's drugs ▪ Dopaminergic drugs • Levodopa • Carbidopa • Amantadine • Sinemet Anticholinergic drugs • Atropine • Benztropine mesylate 2. Pharmacodynamics/pharmacokinetics 3. Nursing Implications/Client education	**<u>Required Reading:</u>** Frandsen (12th ed.) Chapter 48 pp. 942-964 Note related Key Concepts at end of chapter

Unit Title: **Drugs Affecting the Central Nervous System** (Cont'd)		
Objectives	**Content Outline**	**Student Activities**
C. Analyzes the implementation of the nursing process in the promotion and maintenance of system stability for individuals receiving skeletal muscle relaxants. 1. Identifies and discusses the pharmacodynamics/ pharmacokinetics of selected commonly used skeletal muscle relaxants 2. Describes the nursing implications in the safe administration of skeletal muscle relaxants with emphasis on the client education	C. Analyzes the implementation skeletal muscle relaxants. 1. Classification Peripherally acting •Dantrolene Centrally acting Skeletal Muscle Relaxants •Cyclobenzaprine HCl •Baclofen Pharmacodynamics/ pharmacokinetics 2. Nursing Implications/Client Education	**Required Reading**: Frandsen (12th ed.) Chapter 53 pp. 1065-1075 Note related Key Concepts at end of chapter p. 1075
D. Analyzes the implementation of the nursing process in the promotion and maintenance of system stability for individuals receiving Alzheimer's and Myasthenia Gravis medications. 1. Identifies commonly used medications for Alzheimer's and Myasthenia Gravis 2. Discusses the pharmacodynamics/ pharmacokinetics of selected commonly used medications for Alzheimer's and Myasthenia Gravis 3. Describes the nursing implications in the safe administration of medications for Alzheimer's and Myasthenia Gravis with emphasis on the teaching points	D. Analyze and implement the nursing process in caring for patients undergoing drug therapy 1. Implementation Acetylcholinesterase inhibitors • Neostigmine • Tensilon • Physostigmine • pyridostigmine Cholinesterase Inhibitor • donepezil NMDA Receptor Antagonist • Memantine 2. Pharmacodynamics/pharmacokinetics 3. Nursing Implications/Client Education	**Required Reading**: Frandsen (12th ed.) Chapter 47 pp. 925-940 Myasthenia Gravis and Alzheimer's Note related Key Concepts at end of chapter

Unit Title: Drugs Affecting the Autonomic Nervous System		
Objectives	**Content Outline**	**Student Activities**
A. Analyzes the implementation of the nursing process in the promotion and maintenance of system stability for individuals receiving autonomic nervous system medications (adrenergic, anti-adrenergic, cholinergic, anticholinergic). 1. Differentiates the different types of ANS medications and identifies the Pharmacokinetics/Pharmacodynamics of ANS medications: 2. Discusses clients who are at high-risk when receiving ANS medications. 3. Applies effective teaching principles to individuals about safe use of ANS medications.	A. The nursing process in the promotion and maintenance of system stability for individuals receiving autonomic nervous system medications. 1. Types of ANS medications ▪ Adrenergic Drugs (Sympathomimetics) • Alpha and Beta Activity • Epinephrine • Norepinephrine • Dopamine • Pseudoephedrine ▪ Alpha Activity • Oxymetazoline Hydrochloride • Phenylephrine ▪ Adrenergic-Blocking Agents • Doxazosin • Terazosin • Tamsulosin ▪ Cholinergic-blocking agents (Anticholinergics) • Oxybutynin • Atropine • Scopolamine • Dicyclomine Hydrochloride . 2. Nursing implications for high-risk populations receiving ANS medications. 3. Client education	**<u>Required Reading</u>**: Frandsen (12th ed.) Chapter 46 pp. 915-924 Chapter 29 pp.581-590 Chapter 31 pp. 617-623 Chapter 8 pp. 140-141 Chapter 47 pp. 938 Chapter 48 pp. 955-961; 963-966

Unit Title: Drugs Affecting the Cardiovascular System		
Objectives	**Content Outline**	**Student Activities**
A. Analyzes the implementation of the nursing process in the promotion and maintenance of system stability for individuals receiving cardiovascular drugs. 1. Identifies the pharmacokinetics, pharmacodynamics, and physiology of: A. Antilipemic agents B. Coagulation modifier agents C. Cardiac glycosides D. Antianginal agents E. Antidysrhythmic agents F. Antihypertensive	A. Analyzes the implementation of the nursing process for individuals receiving cardiovascular drugs. 1. Pharmacokinetics, pharmacodynamics, and physiology A. Coagulation modifier agents • Anticoagulants • Antiplatelet • Thrombolytic agents • Drugs used to control bleeding B. Antilipemics • HMG-CoA reductase inhibitors • Bile Acid sequestrants • Fibrates • Cholesterol absorption inhibitors • PCSK9 inhibitors • Miscellaneous dyslipidemic agents C. Cardiac glycosides • Digitalis preparations • Digoxin digitalizing process D. Antianginal agents • Organic nitrates • Beta- Adrenergic Blockers • Calcium channel blockers • Treatment of chest pain E. Antidysrhythmics • Class I Sodium Channel Blockers: - IA, IB, IC • Class II Beta-Adrenergic Blockers • Class III Potassium Channel Blockers • Class IV Calcium Channel Blockers F.Antihypertensives	**Required Reading**: Frandsen (12th ed.) CV part 1-Chap. 9 pp. 146-174 Chap. 10 pp. 174-192 CV part 2-Chap. 26 pp. 508-536 Chap. 27 pp. 537-557 Chap. 28 pp. 558-578 Chap. 30 pp. 591-615

Unit Title: **Drugs Affecting the Cardiovascular System** (Cont'd)		
Objectives	**Content Outline**	**Student Activities**
2. Identifies the following characteristics of Cardiac medications: • Pharmacokinetics/Pharmacodynamics • Indication for use • Route and dosage range • Mechanism of action • Therapeutic uses • Contraindications • Adverse effects • Laboratory testing • Nursing Assessment/Intervention • Client Education • Drug, herb and food interaction 3. Defines chronotropic and dromotropic. 4. Discusses the effect of cardiac glycosides and positive inotropic effects on the failing heart. 5. Explains the digitalizing process. 6. Discusses the effect of antianginal agents in the treatment of chest pain. 7. Identifies significant drugs, laboratory findings associated with positive inotropic drugs.	2. Characteristics of cardiac medications • Coagulation modifier agents • Antilipemic agents • Cardiac glycosides • Antianginal agents • Antidysrhythmic agents • Antihypertensives 3. Chronotropic and dromotropic 4-7. Included in above content	**<u>Required Reading</u>**: See previous page

Unit Title: Drugs Used in Ophthalmic Conditions		
Objectives	**Content Outline**	**Student Activities**
A. Analyzes the implementation of the nursing process in the promotion and maintenance of system stability for individuals receiving drugs affecting the eye. 1. Identifies the pharmacokinetics, pharmacodynamics, and physiology of drugs use for the diagnosis and treatment of: • ocular disorders • glaucoma • infection and inflammation 2. Identifies the following characteristics of drugs affecting the eye: • Pharmacokinetics /Pharmacodynamics • Indication for use • Nursing Assessment • Nursing Intervention • Client Education • Drug, herb and food interaction B. Analyzes the effectiveness of teaching for individuals with acute and chronic eye disorders receiving drugs that affect ophthalmic conditions. 1. Explains the use, care and client education related to ophthalmic medications. 2. Discuss the importance of taking medications as prescribed to protect and preserve eyesight.	A. Implementation of the nursing process 1. Pharmacokinetics, pharmacodynamics, and physiology of drugs ▪ Ocular Disorders • Anticholinergics • Adrenergic agonists • Local anesthetics ▪ Drugs for Glaucoma treatment • Prostaglandin analogs • Beta-adrenergic blockers • Alpa$_2$-adrenergic agonists • Cholinergic drugs • Carbonic Anhydrase Inhibitors • Osmotic drugs ▪ Ocular infection and Inflammation • Antibacterial drugs • Antiviral • Antifungal drugs • Antiallergic drugs • Corticosteroids • Anti-inflammatory drugs 2. Characteristics of drugs affecting the eye: • Indication for use • Nursing Assessment • Nursing Intervention • Client Education • Drug, herb, and food interactions B. Teaching effectiveness 1. Use, care, and client education 2. Medication adherence	**<u>Required Reading</u>**: Frandsen (12th ed.) Chapter 59 pp. 1168-1193, pp. 1173 Box 59-1

Unit Title: Geropharmacology		
Objectives	**Content Outline**	**Student Activities**
A. Analyzes the implementation of the nursing process in the promotion and maintenance of system stability for the elderly receiving drugs. 1. Discusses how age-related physiological changes affect drug action. 2. Describes principles of drug administration for the elderly person. 3. Identifies risk factors for polypharmacy. 4. States four nursing goals in medicating the elderly person. B. Demonstrates legal/ethical behaviors that reflect accountability in the administration of medication to the elderly person. 1. Identifies medication assessments that identify problems with drug therapy. C. Applies effective teaching principles to the elderly about safe, effective use of drugs. 1. Utilizes the nursing process to teach the elderly person with sensory deficits. 2. Utilizes the nursing process to discuss methods for the most effective medication therapy.	A. The Elderly Population 1. Age-related changes 2. Drug administration principles in the elderly • Absorption • Distribution • Metabolism • Excretion • Other considerations 3. Risk factors for polypharmacy 4. Nursing goals B. Legal/ethical behaviors C. Teaching principles 1. Sensory deficits 2. Medication therapy methods	**<u>Required Reading</u>**: Frandsen (12th ed.) Chapter 5 pp. 79-90 **<u>Recommended Reading:</u>** Townsend/Morgan (10th ed.) Chapter 33 pp. 731-761

Unit Title: **Geropharmacology** (Cont'd)		
Objectives	**Content Outline**	**Student Activities**
D. Discusses sociocultural variation of the elderly with acute health problems as they pertain to pharmacological interventions with emphasis on the critical stressors affecting the physiological and or psychological and sociocultural factors. 1. Identifies nutritional considerations that influence therapeutic drug use. 2. Identifies alternative practices of various cultural groups that influence drug therapy.	D. Sociocultural considerations 1. Nutritional 2. Cultural	**Required and Recommended Reading listed above**