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

Nursing 231:

NURSING PHARMACOLOGY

SPRING 2022

COURSE TITLE:	**N231 Nursing Pharmacology**
PRE-REQUISITES:	Completion of course requirements for Semesters 1 and 2.
UNITS:	1 unit
HOURS:	2 hours per week
LENGTH:	9 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:

- Two quizzes each consisting of 10 questions worth 5% of the grade for a total of 10%.
- Two exams each consisting of 50 questions worth 45% for a total of 90%.

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 (11th Ed.)*

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

www.fda.gov 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: 2EB984D8**, and click “Join this Class”

If you experience any problems, check the code again and re-enter it. If it does not work, contact Lippincott Online Product Support at

1-800-468-1128 or techsupp@lww.com for assistance.
Not sure what an **ACCESS CODE** is?
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. Discusses the pharmacodynamics/pharmaco-kinetics of antidepressants 2. Identifies the general classifications of antidepressants 3. Describes the nursing implications with emphasis on the teaching points in the use of antidepressants B. Analyzes the implementation of the nursing process in the safe administration of psychotropic drugs: • Mood stabilizers • Anti-depressants 1. Discusses the pharmacodynamics/ pharmacokinetics of mood stabilizers. 2. Identifies commonly used mood stabilizers 3. Discusses the nursing implications with emphasis on the teaching points in the use of mood stabilizers.	C. Antidepressants 1. Mechanism of action/pathophysiology • Indication/contraindication • Side/adverse effects 2. Types • Tricyclic antidepressants (TCA) • SSRI • MAOI • SNRI • Atypical 3. Nursing Implications/Client education • Assessment, planning, implementation, evaluation D. Mood stabilizers 1. Mechanism of action/pathophysiology • Indication/contraindication • Side/adverse effects 2. Commonly used drugs • Lithium • Antipsychotics • Others - Anticonvulsants 3. Nursing Implications/Client education • Assessment, planning, implementation & evaluation	**<u>Required Reading</u>** Frandsen (11th ed.) Chapter 55 ***Please view lecture posted on MS Teams in Week 1 folder prior to coming to class. Only by previewing the lecture will the student be able to participate in class activity.**

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 safe administration of antipsychotics. 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. Antipsychotics 1. Mechanism of action R/T psychopathology - Indication for use - Contraindications - Laboratory testing - Adverse effects 2. Types • First generation (typical) - Phenothiazines - Chlorpromazine - Nonphenothiazines - Thioxanthenes - Butyrophenone • Second generation (atypical antipsychotics) - Ziprasidone - Aripiprazole - Clozapine - Risperidone - Olanzapine - Quetiapine • Long-acting antipsychotics - Haloperidol Decanoate - Fluphenazine Decanoate - Risperdal Consta 3. Adverse reactions – Acute (EPS) – Agranulocytosis – Neuroleptic Malignant Syndrome (NMS) - Metabolic syndrome	**<u>Required Reading:</u>** Frandsen (11th ed.) Chapter 56, pgs. 1085-1104

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. 5. Analyzes the nursing implications in the safe administration of anti-anxiety medications (anxiolytics). a. Discusses the pharmacodynamics/ pharmacokinetics of anti-anxiety medications. b. Lists the different types of anti-anxiety medications. 6. Describes the relevant nursing implications including teaching in the administration of anxiolytics.	4. Management of adverse reactions • Benzatropine • Trihexypenidyl 5. Client education B. Anxiolytics 1. Mechanism of action • Indication for use • Contraindications • Laboratory testing • Adverse effects 2. Medications: • Benzodiazepines • Azaspirones • Benzodiazepine antagonist • Eszopiclone • Ramelteon • Zaleplon • Zolpidem • Antihistamines • Beta-Blockers • Herbal supplements ○ Kava ○ Melatonin ○ Valerian 3. Nursing Implications/Client education	**Required Reading** Frandsen (11th ed.) Chapter 54, pgs. 1046-1061

Unit Title: Drugs Affecting the Central Nervous System		
Objectives	**Content Outline**	**Student Activities**
A. Utilizes the nursing process in the promotion and maintenance of system stability for individuals receiving pharmacologic agents affecting the CNS: • Anticonvulsants • Anti-Parkinson • Skeletal muscle relaxants • Anesthetics 1. Identifies commonly used anti-seizure drugs. 2. Discusses the pharmacodynamics/ pharmacokinetics of the commonly used anti-seizure drugs 3. Identifies factors that influence choice of anti-seizure drugs for a specific seizure disorder. 4. Describes the nursing implications including teaching points in the administration of anti-seizure drugs.	A. Anticonvulsants 1. Commonly used anti-seizure drugs • Barbiturates - Phenobarbital • Benzodiazepines - Diazepam - Clonazepam - Lorazepam • Succinimides - Ethosuximide - Valporic acid • Hydantoins - Phenytoin - Fosphenytoin • Iminostilbene - Carbamazepine - Oxcarbazepine • Miscellaneous - Levetiracetam - Gabapentin - Topiramate - Pregabalin - Zonisamide 2. Factors to consider in choosing an anti-seizure drug. 3. Nursing Implications/Client Education	**<u>Required Reading</u>** Frandsen (11th ed.) Chapter 53 pgs. 1006-1044

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, Identifies commonly used dopaminergic and anticholinergic drugs in Parkinson's disease. 3. Discusses the pharmacodynamics/ pharmacokinetics of anticholinergic drugs and dopaminergic drugs in the treatment of Parkinson's disease. 4. Describes nursing implications including teaching points in the administration of dopaminergic and anticholinergic drugs.	B. Drugs for Degenerative Diseases of the Nervous System 1. Parkinson's disease a. Dopaminergic drugs • Levodopa } Sinemet • Carbidopa } • Amantadine b. Nursing Implications/Client education	**<u>Required Reading:</u>** Frandsen (11th ed.) Chapter 48 pgs. 917-929

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 common indications for skeletal muscle relaxants 2. Identifies commonly used skeletal muscle relaxants 3. Discusses the pharmacodynamics/ pharmacokinetics of selected commonly used skeletal muscle relaxants. 4. Describes the nursing implications in the safe administration of skeletal muscle relaxants with emphasis on the teaching points.	C. 1. Peripherally acting -Dantrolene 2. Centrally acting Skeletal Muscle Relaxants -Cyclobenzaprine HCl -Baclofen 3. Nursing Implications/Client Education	**Required Reading**: Frandsen (11th ed.) Chapter 53 pgs. 1036-1044

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. Implement the nursing process in the care of patients undergoing drug therapy for Alzheimer's and Myasthenia Gravis. 2. Identifies commonly used medications for Alzheimer's and Myasthenia Gravis. 3. Discusses the pharmacodynamics/ pharmacokinetics of selected commonly used medications for Alzheimer's and Myasthenia Gravis. 4. Describes the nursing implications in the safe administration of medications for Alzheimer's and Myasthenia Gravis with emphasis on the teaching points.	D. 1. Acetylcholinesterase Inhibitors a. Neostigmine b. Tensilon c. Physostigmine d. pyridostigmine 2. Cholinesterase Inhibitor a. donepezil 3. NMDA Receptor Antagonist a. Memantine 4. Nursing Implications/Client Education	**Required Reading**: Frandsen (11th ed.) Chapter 47 pgs. 900-915 Myasthenia Gravis and Alzheimer's

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 drugs (adrenergic, anti-adrenergic, cholinergic, anticholinergic). 1. Identifies the following characteristics of ANS drugs: • Pharmacokinetics • Pharmacodynamics • Indication for use • Route and dosage range • Mechanism of action • Therapeutic uses • Contraindications • Adverse effects • Laboratory testing • Nursing Assessment • Nursing Intervention • Client Education 2. Discusses clients who are at high risk when receiving ANS medications. 3. Discusses legal/ethical behaviors which reflect accountability in the administration of ANS medications. 4. Applies effective teaching principles to individuals about safe use of ANS medications.	A. Adrenergic Drugs (Sympathomimetics) B. Alpha and Beta Activity • Epinephrine • Norepinephrine • Dopamine • Pseudoephedrine C. Alpha Activity • Oxymetazoline Hydrochloride • Phenylephrine D. Adrenergic-Blocking Agents • Doxazosin • Terazosin • Tamsulosin E. Cholinergic-blocking agents (Anticholinergics) • Oxybutynin • Atropine • Scopolamine • Dicyclomine Hydrochloride	**<u>Required Reading</u>**: Frandsen (11th ed.) Chapter 46 pgs. 890-899 Chapter 29 pgs.567-576 Chapter 31 pgs. 604-608 Chapter 31 pgs. 604-608 Chapter 8 pgs. 138-141 Chapter 47 pgs. 910-915 Chapter 48 pgs. 928-935,936-941

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: • Antilipemic agents • Coagulation modifier agents • Cardiac glycosides • Antianginal agents • Antidysrhythmic agents • Antihypertensive 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 • Nursing Intervention • Client Education • Drug, herb and food interaction	A. Coagulation modifier agents • Anticoagulants -Vit K antagonists -Direct thrombin inhibitors -Direct factor Xa inhibitors • Antiplatelet • Thrombolytic agents • Drugs used to control bleeding • Mechanism of action, side/adverse effects • Nursing Implications/Client Education B. Antilipemics • Blood lipids/Dyslipidemia • Types of antilipemic agents -HMG-CoA reductase inhibitors -Bile Acid sequestrants -Fibrates -Cholesterol absorption inhibitors -PCSK9 inhibitors -Miscellaneous dyslipidemic agents • Mechanism of Action, side/adverse effects • Nursing Implications/Client Education C. **Drug therapy for dysrhythmias** 1. Class I Sodium Channel Blockers: IA, IB, IC 2. Class II Beta-Adrenergic Blockers 3. Class III Potassium Channel Blockers 4. Class IV Calcium Channel Blockers 5. Mechanism of action, side/adverse effects 6. Nursing Implications/Client Education D. **Antianginal agents** 1. Organic nitrates 2. Beta- Adrenergic Blockers 3. Calcium channel blockers 4. Mechanism of Action, side/adverse effects 5. Nursing Implications/Client Education	**<u>Required Reading</u>**: Frandsen (11th ed.) CV part 1-Chap. 9 pgs.144-170 Chap. 10 pgs. 171-189 CV part 2-Chap. 27 pgs. 524-543 Chap. 28 pgs. 544-563 Chap. 30 pgs. 577-587

Unit Title: **Drugs Affecting the Cardiovascular System** (Cont'd)		
Objectives	**Content Outline**	**Student Activities**
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.	E. Cardiac Glycosides 1. Digitalis preparations • Digoxin • Other 2. Mechanism of Action, side/adverse effects 3. Nursing Implication/Client Education	

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. Statistics • Quantity of medications • Hospitalizations related to drug interactions B. Factors Affecting Drug Administration in the Elderly (Pharmacokinetics) 1. Absorption 2. Distribution 3. Metabolism 4. Excretion C. Considerations in the Administration of Drugs to the Elderly. 1. Organ dysfunction 2. Effects of aging vs. side effects 3. Polypharmacy 4. Smallest dose 5. Shortest time D. Risk factors 1. Chronicity of health problems 2. Common practices 3. Sensory deficits 4. Nutrition 5. Alternative practices	**Required Reading**: Frandsen/Pennington (11th ed) Chapter 5 **Recommended Reading:** Townsend/Morgan (10th edition) Chapter 33 pgs. 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.	E. Nursing Implications/Client Teaching	

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	A. Ocular Disorders • Anticholinergics • Adrenergic agonists • Local anesthetics B. Drugs for Glaucoma treatment • Prostaglandin analogs • Beta-adrenergic blockers • Alpa$_{2}$-adrenergic agonists • Cholinergic drugs • Carbonic Anhydrase Inhibitors • Osmotic drugs C. Ocular infection and Inflammation • Antibacterial drugs • Antiviral • Antifungal drugs • Antiallergic drugs • Corticosteroids • Anti-inflammatory drugs D. Herb-Drug Interaction	**Required Reading**: Frandsen (11th ed.): Chapter 59 pgs. 1139-1160

Unit Title: **Drugs Used in Ophthalmic Conditions** (Cont'd)		
Objectives	**Content Outline**	**Student Activities**
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.	E. Nursing Implications/Client teaching	Frandsen (11th ed.): Chapter 59 pgs. 1142 Box 59-1

12/20/21 M. Guerrero