

CONNECTICUT COMMUNITY COLLEGES NURSING PROGRAMS

*Capital Community College, Gateway Community College, Norwalk Community College,
Naugatuck Valley Community College, Three Rivers Community College Community College*

NUR 103: PHARMACOLOGY FOR FAMILIES ACROSS THE LIFESPAN

Course Prerequisite

NUR 101: Introduction to Nursing Practice

Course Corequisite

NUR 102: Family Health Nursing

Course Components

Credits 1 credits
Hours Classroom: 15 hours

Course Description

The student will focus on the safe use, pharmacological principles, indications and nursing implications related to drug therapy when caring for individuals and families. Emphasis will be placed on medications used with perinatal, neonatal, pediatric, geriatric and peri-operative clients. The course will stress the general characteristics of selected medications and will include indications, pharmacokinetics, side effects, adverse effects, contraindications, administration, nursing implications across the lifespan, client education and relationship to prior learning.

Course Objectives

At the completion of this course, the student will be able to:

1. Integrate pharmacological principles as they relate to holistic and clinical medication application when caring for a client with obstetrical, geriatric, pediatric, psychiatric, peri-operative, gynecological, genitourinary, and orthopedic conditions.
2. Apply the nursing process to drug theory as it relates to clients with obstetrical, geriatric, pediatric, psychiatric, peri-operative, gynecological, genitourinary, and orthopedic conditions.
3. Describe safe and competent medication administration as it relates to clients with obstetrical, pediatric, geriatric, psychiatric, peri-operative, gynecological, genitourinary, and orthopedic conditions.
4. Develop a comprehensive pharmacological teaching plan for clients with obstetrical, pediatric, geriatric, psychiatric, peri-operative, gynecological, genitourinary, and /or orthopedic conditions.
5. Interpret cultural and individual awareness when tailoring drug therapy to clients with obstetrical, pediatric, geriatric, psychiatric, peri-operative, gynecological, genitourinary, and orthopedic conditions.
6. Differentiate the roles of the multidisciplinary health team members when implementing a pharmacological plan of care for clients with obstetrical, pediatric, geriatric, psychiatric, peri-operative, gynecological, genitourinary, and orthopedic conditions
7. Analyze the legal-ethical implications of medication administration related to clients with obstetrical, pediatric, geriatric, psychiatric, peri-operative, gynecological, genitourinary, and orthopedic conditions.
8. Examine the professional role of the nurse in medication administration for clients with obstetrical, pediatric, child/adolescence psychiatric, pre-post operative, gynecological, genitourinary, or orthopedic conditions.

WEEK HOURS	UNIT OBJECTIVES	CONTENT	SUGGESTED LEARNING EXPERIENCES	EVALUATION
<p>Week 1 1 hr</p>	<p><u>Unit 1: Overview of Pharmacology</u></p> <p>Discuss the role of the nurse related to pharmacology.</p>	<p>A Define the seven components related to the general characteristics of pharmacology</p> <ol style="list-style-type: none"> 1. Indications 2. Pharmacokinetics 3. Side Effects/Adverse Effects/Contraindications 4. Administration 5. Nursing Implications Across the Lifespan 6. Client Education 7. Relation to Prior Learning <p>B. Role of the Nurse in Pharmacology</p> <ol style="list-style-type: none"> 1. Development of a Teaching Plan 2. Integrating Cultural and Individual Differences related to Pharmacology 3. Role of the Interdisciplinary Team 4. Legal and Ethical Issues 	<p>Assigned Readings All assigned readings for each week are listed within the module.</p> <p>Lecture</p> <p>Discussion</p>	<p>Exam</p> <p>Case Studies</p>
<p>Week 2 1 hour</p>	<p><u>Unit II: Pharmacological Management of the Obstetrical and Neonatal Client</u></p> <p>Utilizing the nursing process, develop a holistic, culturally sensitive medication plan of care for the healthy neonate and the perinatal client.</p> <p>Describe safe and competent medication</p>	<p>A. Medications that Affect Uterine functioning</p> <ol style="list-style-type: none"> 1. Uterine Relaxants <ol style="list-style-type: none"> a. Prototype: terbutaline b. Prototype: magnesium sulfate 2. Uterine Stimulants <ol style="list-style-type: none"> a. Prototype: Pitocin b. Prototype: Methergine 3. Drugs Used to Promote Cervical Ripening <ol style="list-style-type: none"> a. Prototype: Dinoprostone b. Prototype: Misoprostol 4. Other Maternity Medications <ol style="list-style-type: none"> a. RhoGAM b. Vitamin K c. Erythromycin Eye Ointment 	<p>Assigned Readings</p> <p>Lecture</p> <p>Discussion</p> <p>Develop a pharmacological teaching plan for an obstetrical client</p>	<p>Exam</p> <p>Case Studies</p>

WEEK HOURS	UNIT OBJECTIVES	CONTENT	SUGGESTED LEARNING EXPERIENCES	EVALUATION
	administration, utilizing hospital based technology, for the perinatal client.			
Week 3 1 hour	<p><u>Unit III: Pharmacological Management of Pain</u></p> <p>Utilizing the nursing process, develop a holistic, culturally sensitive medication plan of care for the client in pain.</p> <p>Describe safe and competent medication administration, utilizing hospital based technology, for the client in pain</p>	<p>A. Pathophysiology of Pain</p> <p>B. Management Strategy</p> <p>C. Assessment</p> <ol style="list-style-type: none"> 1. Comprehensive Initial Assessment 2. Ongoing Evaluation 3. Barriers to Assessment <p>D. Analgesics</p> <ol style="list-style-type: none"> 1. Nonopioid <ol style="list-style-type: none"> a. Nonsteroidal Anti-Inflammatory <ol style="list-style-type: none"> 1) Aspirin 2) Ibuprofen (Mortin, Advil) 3) Naproxen (Aleve) 2. Opioid <ol style="list-style-type: none"> a. Codeine b. Morphine c. Methodone (Dolophine) d. Meperidine (Demerol) 3. Adjuvant Analgesics 	<p>Assigned Readings</p> <p>Lecture</p> <p>Discussion</p>	<p>Exam</p> <p>Case Studies</p>
Week 5 1 hour	<p><u>Unit IV: Pharmacological Management During the Peri-Operative</u></p>	<p>A. Anti-Infective Medications</p> <ol style="list-style-type: none"> 1. Antibiotics <ol style="list-style-type: none"> a. General Overview of Antibiotic Therapy 	<p>Assigned Readings</p> <p>Lecture</p>	<p>Exam</p> <p>Case Studies</p>

WEEK HOURS	UNIT OBJECTIVES	CONTENT	SUGGESTED LEARNING EXPERIENCES	EVALUATION
	<p><u>Period</u></p> <p>Utilizing the nursing process, develop a holistic, culturally sensitive medication plan of care for the peri-operative client pre-operatively, intra-operatively or post-operatively.</p> <p>Describe safe and competent medication administration, utilizing hospital based technology, for the peri-operative client</p>	<ul style="list-style-type: none"> b. Prototype: penicillin (Amoxicillin) c. Prototype: cephalosporin: cefazolin (Ancef) d. Prototype: sulfonamide: trimethoprim-sulfamethoxazole (Bactrim) e. Prototype: aminoglycoside: gentamycin (Garamycin) <ul style="list-style-type: none"> 1. Anti-Fungal <ul style="list-style-type: none"> a. Prototype: amphotericin B (Fungizone) 2. Anti-viral <ul style="list-style-type: none"> a. Prototype: acyclovir (Zovirax) 	<p>Discussion</p> <p>Develop a pharmacological teaching plan for a client during the peri-operative period</p>	
	<p><u>Unit IV:</u> <u>Pharmacological Management During the Peri-Operative Period (con't)</u></p>	<ul style="list-style-type: none"> B. Antiemetic <ul style="list-style-type: none"> 1. Prototype: prochlorperazine (Compazine) 2. Prototype: ondansetron hydrochloride (Zofran) C. Anticholinergic <ul style="list-style-type: none"> 1. Prototype: atropine D. Anesthetics <ul style="list-style-type: none"> 1. Types of Anesthesia <ul style="list-style-type: none"> a. Local Anesthesia b. Epidural Anesthesia c. Spinal Anesthesia d. General Anesthesia 2. Medications used for Anesthesia <ul style="list-style-type: none"> a. Local/Epidural/ Spinal: Prototype: lidocaine hydrochloride b. Inhaled Anesthesia: Prototype: fluothane 	<p>Assigned Readings</p> <p>Lecture</p> <p>Discussion</p> <p>Develop a pharmacological teaching plan for a client during the peri-operative period</p>	<p>Exam</p> <p>Case Studies</p>

WEEK HOURS	UNIT OBJECTIVES	CONTENT	SUGGESTED LEARNING EXPERIENCES	EVALUATION
		<p>(Halothane)</p> <ul style="list-style-type: none"> c. Gas: Prototype: nitrous oxide d. Barbiturates: Prototype: thiopental sodium (Sodium Pentathol) e. Non-Barbiturate: Prototype: propofol (Diprivan) <p>3. Conscious Sedation</p> <ul style="list-style-type: none"> a. Benzodiazepine: Prototype: midazolam (Versed) b. Narcotic: Prototype: fentanyl c. Neuroleptanalgesic: Prototype: fentanyl and droperidol <p>E. Neuromuscular Blocking Agents</p> <ul style="list-style-type: none"> 1. Prototype: succinylcholine (Anectine) <p>F. Skeletal Muscle Relaxant</p> <ul style="list-style-type: none"> 1. Prototype: dantrolene sodium <p>G. Prevention of Postoperative Complication: Deep Vein Thrombosis (DVT) and Pulmonary Embolism (PE)</p> <ul style="list-style-type: none"> 1. Prototype: heparin sodium 2. Prototype: enoxaparin (Lovenox) 3. Prototype: warfarin sodium (Coumadin) 		
<p>Week 6 1 hour</p>	<p><u>Unit V: Shock</u></p> <p>Utilizing the nursing process, develop a holistic, culturally sensitive medication plan of care for the client in shock.</p> <p>Describe pharmacologic management and safe and</p>	<p>A. Pharmacologic Management of Shock</p> <ul style="list-style-type: none"> a. Emergency pharmacologic management of shock considering causative factors and generic approach (hypovolemic, cardiogenic, septic, anaphylactic, neurogenic) b. Prototype Drugs: <ul style="list-style-type: none"> i. Epinephrine 		<p>Exam</p> <p>Case Studies</p>

WEEK HOURS	UNIT OBJECTIVES	CONTENT	SUGGESTED LEARNING EXPERIENCES	EVALUATION
	competent medication administration utilizing hospital based technology for the client in shock	ii. Consult Lehne, NUR 102 for further content development		
Week 8 1 hour	<p><u>Unit VI:</u> <u>Pharmacological Management of Geriatric Clients</u></p> <p>Utilizing the nursing process, develop a holistic, culturally sensitive medication plan of care for the geriatric client.</p> <p>Utilize the nursing process, develop a holistic, culturally sensitive medication plan of care for the client with dementia, delirium, Alzheimer's or ADHD.</p> <p>Describe safe and competent medication administration, utilizing hospital based technology, for the geriatric client.</p>	<p>A. Medications used for Cognitive Disorders</p> <ol style="list-style-type: none"> 1. Cholinesterase Inhibitors <ol style="list-style-type: none"> a. Prototype: donepezil hydrochloride (Aricept) 2. NMDA Receptor Antagonist <ol style="list-style-type: none"> a. Prototype: memantine hydrochloride (Namenda) <p>B. Medications that Effect Bowel Functioning</p> <ol style="list-style-type: none"> 1. Laxatives <ol style="list-style-type: none"> a. Bulk Forming Laxatives: Prototype: psyllium (Metamucil) b. Surfactant Laxatives: Prototype: docusate sodium (Colace) c. Stimulant Laxatives: Prototype: bisacodyl sodium (Dulcolax) d. Osmotic Laxatives: Prototype: magnesium hydrochloride (Milk of Magnesia) e. Other Laxatives: Prototype: Lactulose 	<p>Assigned Readings</p> <p>Lecture</p> <p>Discussion</p> <p>Develop a pharmacological teaching plan for a geriatric client</p>	<p>Exam</p> <p>Case Studies</p>
Week 9 1 hour	<p><u>Unit VII:</u> <u>Pharmacological Management of Clients with Orthopedic</u></p>	<p>A. Glucocorticoids</p> <ol style="list-style-type: none"> 1. General Overview of Steroid Therapy 2. Types of Glucocorticoids 	<p>Assigned Readings</p> <p>Lecture</p>	<p>Exam</p> <p>Case Studies</p>

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	<p><u>Disorders</u></p> <p>Utilizing the nursing process, develop a holistic, culturally sensitive medication plan of care for the pediatric client with THA, TKA, osteoarthritis, rheumatoid arthritis, PE or compartment syndrome.</p> <p>Describe safe and competent medication administration, utilizing hospital based technology, for the orthopedic client.</p>	<ul style="list-style-type: none"> a. Short Acting <ul style="list-style-type: none"> 1). Prototype: hydrocortisone b. Intermediate Acting <ul style="list-style-type: none"> 1). Prototype: prednisone c. Long Acting <ul style="list-style-type: none"> 1) Prototype: betamethasone 2) Prototype: dexamethasone <p>B. Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)</p> <ul style="list-style-type: none"> 1. First Generation NSAIDs <ul style="list-style-type: none"> a. Prototype: ibuprofen (Motrin) b. Prototype: naproxen (Naprosyn) 2. Second Generation NSAIDs: COX-2 Inhibitors <ul style="list-style-type: none"> a. Prototype: celecoxib (Celebrex) <p>C. Disease Modifying Antirheumatic Drugs (DMARDs)</p> <ul style="list-style-type: none"> 1. Prototype: methotrexate (Rheumatrex) 2. Prototype: hydroxychloroquine (Plaquenil) 3. Prototype: cyclosporine (Neoral) 4. Prototype: gold salt 5. Prototype: etanercept (Enebrel) 	Discussion	
Week 10 1 hour	<p><u>Unit VIII:</u> <u>Pharmacological Management of the Pediatric Client</u></p> <p>Utilizing the nursing process, develop a</p>	<p>A. Vaccinations across the Lifespan</p> <ul style="list-style-type: none"> 1. Schedule of pediatric immunizations 2. Hepatitis B 3. Human Papilloma Virus (HPV) Pneumococcal Vaccine Haemophilus Influenzae Vaccine (HIB) <p>B. Medications used for Allergic Reactions</p>	Assigned Readings Lecture Discussion	Exam Case Studies

WEEK HOURS	UNIT OBJECTIVES	CONTENT	SUGGESTED LEARNING EXPERIENCES	EVALUATION
	<p>holistic, culturally sensitive medication plan of care for the pediatric client.</p> <p>Describe safe and competent medication administration, utilizing hospital based technology, for the pediatric client.</p>	<ol style="list-style-type: none"> 1. Antihistamines <ol style="list-style-type: none"> a. 1st generation: Prototype: diphenhydramine (Benedryl) b. 2nd generation: Prototype: loratadine (Claritin) c. 3rd generation: Prototype: fexofenadine hydrochloride (Allegra) 2. Epinephrine 		
Week 12 1 hour	<p><u>Unit IX:</u> <u>Pharmacological Management of Clients with Genito-Urinary Disorders</u></p> <p>Utilizing the nursing process, develop a holistic, culturally sensitive medication plan of care for the client with UTIs, kidney surgery or BPH.</p> <p>Describe safe and competent medication administration, utilizing hospital based technology, for the GU client.</p>	<ol style="list-style-type: none"> A. Medications used for Urinary Incontinence <ol style="list-style-type: none"> 1. Prototype: oxybutynin B. Medications used for Benign Prostatic Hypertrophy <ol style="list-style-type: none"> 2. Prototype: tamulosin (Flomax) (Ditropan) 	<p>Assigned Readings</p> <p>Lecture</p> <p>Discussion</p>	<p>Exam</p> <p>Case Studies</p>
Week 13 1 hour	<p><u>Unit X:</u> <u>Pharmacological Management of Clients Using Contraception and Gynecological</u></p>	<p>A. Contraception: Compare and Contrast non-pharmacological and pharmacological methods of contraception</p> <ol style="list-style-type: none"> 1. Pharmacologic Methods: Medications used for 	<p>Assigned Readings</p> <p>Lecture</p> <p>Discussion</p>	<p>Exam</p> <p>Case Studies</p>

WEEK HOURS	UNIT OBJECTIVES	CONTENT	SUGGESTED LEARNING EXPERIENCES	EVALUATION
	<p><u>Disorders</u></p> <p>Utilizing the nursing process, develop a holistic, culturally sensitive medication plan of care for the client with Premenstrual Syndrome (PMS), menopause, endometriosis, toxic shock syndrome, or Sexually Transmitted Diseases (STDs).</p> <p>Describe safe and competent medication administration, utilizing hospital based technology, for the gynecological client</p>	<p>Contraception</p> <ol style="list-style-type: none"> a) Combination Oral Contraceptive <ol style="list-style-type: none"> i) Prototype: estrogen and progestin (Alesse) b) Morning after Pill/Plan B <ol style="list-style-type: none"> i) Prototype: RU-486 c) Mini-Pill <ol style="list-style-type: none"> i) Prototype: progestin only (Micronor) d) Transdermal Contraceptive Patch <ol style="list-style-type: none"> i) Prototype: Ortho Evra e) Vaginal Contraceptive Ring <ol style="list-style-type: none"> i) Prototype: NuvaRing f) Long-Acting Contraception <ol style="list-style-type: none"> i) Prototype: depot medroxyprogesterone acetate (Depo-Provera) <p>2. Non-Pharmacologic Methods</p> <ol style="list-style-type: none"> (1) Social, cultural and spiritual influences (2) abstinence, rhythm (3) Use of Non-oxynol 9 with condoms/diaphragm (4) Intrauterine Devices (IUD) <p>B. Hormone Replacement Therapy</p> <ol style="list-style-type: none"> 1. Oral and Intravaginal Estrogens <ol style="list-style-type: none"> a. Prototype: conjugated estrogens, equine (Premarin) 2. Oral Combination Estrogen/Progesterone 3. Conjugated estrogens, equine/ medroxyprogesterone acetate (Prempro) 	<p>Develop a pharmacological teaching plan for a gynecological client</p>	
<p>Week 14 1 hour</p>	<p><u>Unit XI:</u> <u>Pharmacological Management for Clients with Anxiety and Child Psychiatric Disorders</u></p>	<p>A. Stimulant Medications</p> <ol style="list-style-type: none"> 1. Prototype: methylphenidate (Ritalin) <p>B. Anti-Anxiety Medications</p> <ol style="list-style-type: none"> 1. Benzodiazepine <ol style="list-style-type: none"> a. Prototype: lorazepam 	<p>Assigned Readings</p> <p>Lecture</p> <p>Discussion</p>	<p>Exam</p> <p>Case Studies</p>

WEEK HOURS	UNIT OBJECTIVES	CONTENT	SUGGESTED LEARNING EXPERIENCES	EVALUATION
	<p>Utilizing the nursing process, develop a holistic, culturally sensitive medication plan of care for the client with anxiety, development, attention deficit and eating disorders or substance abuse.</p> <p>Describe safe and competent medication administration, utilizing hospital based technology, for the child/ adolescent psychiatric client</p>	<p>(Ativan)</p> <p>2. Atypical Anti-Anxiety</p> <p>a. Prototype: buspirone (BuSpar)</p>		
<p>Week 15 1 hour</p>	<p><u>Comprehensive Assessment: Group Activity</u></p> <p>Weight 10% of grade</p>	<p>Example: Creation of Medication Administration Sheets congruent with expectations of students in NUR*102 who are administering medications to clients during clinical experiences. Spread over the course of the semester.</p>	<p>Group assignments may consist of specific medications/ classifications of medications to explore</p>	<p>Exam</p> <p>Case Studies</p>