



El Camino College  
COURSE OUTLINE OF RECORD – Official

<b>Course Acronym:</b>	NURS
<b>Course Number:</b>	224
<b>Descriptive Title:</b>	Nursing Pharmacology
<b>Division:</b>	Health Sciences and Athletics
<b>Department:</b>	Nursing
<b>Course Disciplines:</b>	Nursing
<b>Catalog Description:</b>	This course provides instruction from basic to advanced concepts and principles of pharmacology for nursing students. The knowledge and intervention needed to maximize therapeutic effects and prevent or minimize adverse effects of drugs will be emphasized. Major content areas will include advanced pharmacological principles, major drug classification, selected individual drugs, drug effects on body tissues, human responses to drug therapy, and the application of the nursing process. Anatomy, physiology, and microbiology concepts will be correlated with various pathologies, emphasizing the effects of drug therapy on body systems. Students will learn how to develop and present patient teaching plans. Legal and ethical issues will also be discussed.
<b>Prerequisite:</b>	Nursing 143 AND  Nursing 144 AND  Nursing 146  with a minimum grade of C in all prerequisites
<b>Co-requisite:</b>	
<b>Recommended Preparation:</b>	
<b>Enrollment Limitation:</b>	Students must be admitted into the Nursing Program
<b>Hours Lecture (per week):</b>	3
<b>Hours Laboratory (per week):</b>	0
<b>Outside Study Hours:</b>	6
<b>Total Course Hours:</b>	54
<b>Course Units:</b>	3
<b>Grading Method:</b>	Letter Grade only
<b>Credit Status:</b>	Credit, degree applicable
<b>Transfer CSU:</b>	Yes
<b>Effective Date:</b>	Fall 2019

<b>Transfer UC:</b>	No
<b>Effective Date:</b>	
<b>General Education: ECC</b>	
<b>Term:</b>	
<b>Other:</b>	
<b>CSU GE:</b>	
<b>Term:</b>	
<b>Other:</b>	
<b>IGETC:</b>	
<b>Term:</b>	
<b>Other:</b>	
<b>Student Learning Outcomes:</b>	<p><b>SLO #1 Principles of Pharmacology</b></p> <p>The student will apply principles of pharmacology to drug therapy, using a systematic approach and the nursing process for the purpose of administering pharmacological agents based on safe and accurate nursing practice.</p> <p><b>SLO#2 Drug Teaching Plan</b></p> <p>The student will develop and implement a teaching plan of a specific drug.</p> <p><b>SLO#3 Legal Frameworks</b></p> <p>The student will describe the legal, ethical and regulatory frameworks utilized in the administration of medications.</p>
<b>Course Objectives:</b>	<ol style="list-style-type: none"> <li>1. Apply principles of pharmacology to drug therapy.</li> <li>2. Apply a systematic approach when studying drug therapy, with emphasis on therapeutic classification and prototypical drugs.</li> <li>3. Compare the characteristics of major drug groups and selected individual drugs as they correlate to various pathologies.</li> <li>4. Analyze a patient's response to drug therapy.</li> <li>5. Apply the nursing process to patients receiving one or more therapeutic drugs.</li> <li>6. Apply principles of therapy with major drug groups in relation to drug selections, dosage, route and use in selected populations.</li> </ol>

	<ol style="list-style-type: none"> <li>7. Analyze clinically significant drug-drug, drug dosage, and drug-nutrient interactions.</li> <li>8. Examine major issues and concerns in drug therapy. Analyze legal, ethical, and economic aspects of drug therapy.</li> <li>9. Formulate teaching plans regarding the use of over-the-counter and prescription drugs.</li> <li>10. Examine the nurse's role in relation to drug therapy and health teaching.</li> </ol>
<p><b>Major Topics:</b></p>	<ol style="list-style-type: none"> <li><b>I. Pharmacology Basics (6 hours, lecture)</b> <ol style="list-style-type: none"> <li>A. Pharmacological principles</li> <li>B. Lifespan considerations</li> <li>C. Cultural, legal, and ethical considerations</li> <li>D. Medication errors               <ol style="list-style-type: none"> <li>1. Preventing</li> <li>2. Responding</li> </ol> </li> <li>E. Patient education and drug therapy</li> <li>F. Over-the-counter drugs and herbal/dietary supplements</li> <li>G. Gene therapy and pharmacogenomics</li> </ol> </li> <li><b>II. Drugs Affecting The Central Nervous System (6 hours, lecture)</b> <ol style="list-style-type: none"> <li>A. Analgesic Drugs</li> <li>B. General and local anesthetics</li> <li>C. Depressants and muscle relaxants</li> <li>D. Stimulants and related drugs</li> <li>E. Antiepileptic and antiparkinson drugs</li> </ol> </li> <li><b>III. Drugs Affecting Mental Health (3 hours, lecture)</b> <ol style="list-style-type: none"> <li>A. Psychotherapeutic drugs</li> <li>B. Substance abuse</li> </ol> </li> <li><b>IV. Drugs affecting the autonomic Nervous System (3 hours, lecture)</b> <ol style="list-style-type: none"> <li>A. Adrenergic drugs</li> <li>B. Adrenergic-blocking drug drugs</li> <li>C. Cholinergic drugs</li> <li>D. Cholinergic-blocking drugs</li> </ol> </li> <li><b>V. Drugs Affecting the Cardiovascular Systems (9 hours, lecture)</b> <ol style="list-style-type: none"> <li>A. Antihypertensive drugs</li> <li>B. Antianginal drugs</li> </ol> </li> </ol>

- C. Heart failure drugs
- D. Antidysrhythmic drugs
- E. Coagulation modifier drugs
- F. Antilipemic drugs

**VI. Drugs Affecting The Renal Systems (2 hours, lecture)**

- A. Diuretic drugs
- B. Fluids and electrolytes

**VII. Drugs Affecting The Endocrine and Reproductive Systems (3 hours, lecture)**

- A. Pituitary drugs
- B. Thyroid and antithyroid drugs
- C. Antidiabetic drugs
- D. Adrenal drugs
- E. Women's health drugs
- F. Men's health drugs

**VIII. Drugs Affecting The Respiratory System (3 hours, lecture)**

- A. Antihistamines, decongestants, antitussives, and expectorants
- B. Respiratory drugs

**IX. Anti-Infective Drugs (3 hours, lecture)**

- A. Antibiotics
- B. Antiviral drugs
- C. Antitubercular drugs
- D. Antifungal drugs
- E. Antimalarial, antiprotozoal, and anthelmintic drugs

**X. Antiinflammatory drugs (2 hours, lecture)**

- A. Antiinflammatory drugs
- B. Antigout drugs

**XI. Chemotherapeutic Drugs (4 hours, lecture)**

- A. Antineoplastic drugs
  1. Cancer overview and cell cycle-specific drugs
  2. Cell cycle-nonspecific drugs and miscellaneous drugs

**XII. Biologic and Immune Modifiers (2 hours, lecture)**

- A. Biologic response - modifying and antirheumatic drugs
- B. Immunosuppressant drugs
- C. Immunizing drugs

**XIII. Drugs Affecting Nutrition (2 hours, lecture)**

- A. Vitamins and minerals

	<p>B. Anemia drugs C. Nutritional supplements</p> <p><b>XIV. Other Drugs (3 hours, lecture)</b></p> <p>A. Dermatologic drugs B. Ophthalmic drugs C. Otic drugs</p> <p><b>XV. Drugs Affecting the Gastrointestinal System (3 hours, lecture)</b></p> <p>A. Acid-controlling drugs B. Bowel disorder drugs C. Antiemetic drugs D. Antinausea</p>
<b>Total Lecture Hours:</b>	54
<b>Total Laboratory Hours:</b>	0
<b>Total Hours:</b>	54
<b>Primary Method of Evaluation:</b>	1) Substantial writing assignments
<b>Typical Assignment Using Primary Method of Evaluation:</b>	In a two- to three-page paper, compare and contrast the pharmacological treatments appropriate to diabetes mellitus. Outline the nurse's responsibilities in the administration of these medications. Determine the expected outcomes and formulate a patient health teaching plan.
<b>Critical Thinking Assignment 1:</b>	In a group, formulate a written teaching plan outlining the medications used to treat a patient taking an antimicrobial agent. Give a five minute oral presentation of your plan that includes the signs and symptoms requiring this treatment, as well as the nurse's role regarding treatment, prevention, and health teaching.
<b>Critical Thinking Assignment 2:</b>	Each week in class, students are assigned in a group and will give a five-minute oral presentation based on an assigned case study of a specific drug classification analyzing the implications of drug effects and interactions on the nursing care of the patient. Cite acceptable drug resources correlating the principles of anatomy, physiology, and microbiology in your presentation.
<b>Other Evaluation Methods:</b>	Class Performance, Homework Problems, Matching Items, Multiple Choice, Objective Exam, Presentation, Quizzes
<b>Instructional Methods:</b>	Discussion, Group Activities, Lecture, Multimedia presentations, Role play/simulation
<b>If other:</b>	
<b>Work Outside of Class:</b>	Answer questions, Problem solving activity, Required reading, Study
<b>If Other:</b>	
<b>Up-To-Date Representative Textbooks:</b>	Karch, A.M., Focus on Nursing Pharmacology. 6th ed. Philadelphia: Lippincott, 2013. (Discipline Standard)

	<p>Deglin, J., Vallerund, A.H., Davis's Drug Guide for Nurses. 12th ed. Philadelphia: F.A. Davis, 2011. (Discipline Standard)</p> <p>Pickar, G., Abernethy, A., Dosage Calculations. 9th ed. Cengage Learning, 2013. (Discipline Standard)</p>
<b>Alternative Textbooks:</b>	
<b>Required Supplementary Readings:</b>	ATI Materials
<b>Other Required Materials:</b>	
<b>Requisite:</b>	Prerequisite
<b>Category:</b>	sequential
<b>Requisite course(s): List both prerequisites and corequisites in this box.</b>	<p>Nursing-143 AND</p> <p>Nursing-144 AND</p> <p>Nursing-146</p>
<b>Requisite and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s).</b>	<p><b>Students preparing to enter the nursing field need to understand the dynamic aspects of the professional nurse in a variety of settings, the role of patient advocate and nursing process in health care.</b></p> <p>NURS 143 - Identify the nurse's role and responsibilities in communication with patient's across the lifespan while considering the patient's cultural and developmental attributes.</p> <p>NURS 143 - Demonstrate critical thinking with the application of initial conversion and mathematical skills in computing drug dosages.</p> <p>NURS 143 - Evaluate how the evidence-based practice impacts biophysical outcomes in patient care.</p> <p>NURS 143 - Use steps of the nursing process to understand the nursing care plan.</p> <p>NURS 143 - Utilize standards of critical thinking to determine adequacy of data collection for the development of a nursing care plan.</p> <p><b>Students must demonstrate the ability to calculate safe oral and parental drug dosages according to the six rights of medication administration.</b></p> <p>NURS 144 - Demonstrate the application of mathematical concepts when calculating oral and parenteral drug dosages for adults.</p> <p>NURS 144 - Convert metric, apothecary, and household measurements from one system to another.</p> <p>NURS 144 - Carefully interpret medication labels and medication administration records to safely administer drug dosages utilizing the six rights of medication administration.</p>

	<p>NURS 144 - Calculate reconstitution of injectable and non-injectable drugs and select the correct syringe and calibrated medical equipment necessary to safely administer these medications.</p> <p>NURS 144 - Demonstrate the ability to calculate safe oral and parenteral drug dosages for pediatric patients.</p> <p>NURS 144 - Demonstrate the ability to safely prepare and administer accurately calculated medication dosages in a simulated clinical environment.</p> <p><b>The students must demonstrate competency performing health assessments to demonstrate and identify normal versus common abnormal findings for biophysical body structures and functions.</b></p> <p>NURS 146 - Gather data for a biophysical health history from an adult client.</p> <p>NURS 146 - Identify common abnormal biophysical findings and evaluate the impact on an adult client.</p> <p>NURS 146 - Compare and contrast normal and common abnormal findings for the biophysical body structures and systems.</p> <p>NURS 146 - Identify the steps in the nursing process and demonstrate how to use it in a client's history and physical.</p> <p>NURS 146 - Document normal and abnormal findings and complete basic history and physical examination of all the body systems using correct terminology.</p> <p>NURS 146 - Analyze and evaluate the findings from health and physical examinations utilizing the nursing process and critical thinking skills.</p> <p>NURS 146 - Perform a physical assessment from head to toe utilizing the appropriate equipment and medical terminology.</p>
<b>Requisite Skill:</b>	
<b>Requisite Skill and Matching Skill(s): Bold the requisite skill(s). If applicable</b>	
<b>Requisite course:</b>	
<b>Requisite and Matching skill(s):Bold the requisite skill. List the corresponding course objective under each skill(s).</b>	
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<b>Enrollment Limitations and Category:</b>	Students must be admitted into the Nursing Program
<b>Enrollment Limitations Impact:</b>	
<b>Course Created by:</b>	
<b>Date:</b>	05/14/2018
<b>Original Board Approval Date:</b>	07/16/2018
<b>Last Reviewed and/or Revised by:</b>	Eliza Rivera-Mitu
<b>Date:</b>	05/14/2018
<b>Last Board Approval Date:</b>	12/19/2022