

JAMESTOWN COMMUNITY COLLEGE

State University of New York

INSTITUTIONAL COURSE SYLLABUS

Course Title: Pharmacology & Dosage Calculation

Course Abbreviation and Number: LPN 1110

Credit Hours: 3 credit hour.

Course Type: Lecture

Course Description: This course provides an introduction to the core principles of pharmacology, focusing on a wide range of drug classifications and their effects on the body. A key emphasis is placed on the application of the nursing process in drug administration, and the course also includes important drug calculations. Open to Practical Nursing majors only.

Pre/Co-requisite: ENG 1510. Pre/Co-requisite: BIO 1500 or 2510, MAT 1540, LPN 1120.

General Education Requirements Met
SUNY

JCC

Student Learning Outcomes:

Students who demonstrate understanding can:

1. Apply effective communication strategies to reinforce patient education on medication regimens and promote safe medication practices.
2. Analyze patient information and medication orders, making informed decisions to ensure safe medication administration while demonstrating critical thinking skills.
3. Accurately calculate and verify drug dosages in various patient scenarios, applying critical thinking to ensure safe and effective medication administration.
4. Assess the impact of social determinants of health on medication adherence and evaluate related concerns, demonstrating ethical reasoning in their analysis.
5. Demonstrate and evaluate safe medication administration practices, including infection control techniques and proper documentation, ensuring adherence to standard protocols to reduce medication errors.

Topics Covered:

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| I. Pharmacological Principles | B. Growth Factors |
| A. Pharmacokinetics and Routes of Administration | VI. Medications Affecting the Gastrointestinal System and Nutrition |
| B. Safe Medication Administration and Error Reduction | A. Peptic Ulcer Disease |
| C. Dosage Calculations | B. Gastrointestinal Disorders |
| D. Intravenous Therapy | C. Vitamins and Minerals |
| E. Adverse Effects, Interactions, and Contraindications | VII. Medications Affecting the Reproductive System |
| II. Medications Affecting the Nervous System | A. Medications Affecting the Reproductive Tract |
| A. Anxiety and Trauma- and Stressor-Related Disorders | VIII. Medications for Joint and Bone Conditions |
| B. Depressive Disorders | A. Connective Tissue Disorders |
| C. Bipolar Disorders | B. Bone Disorders |
| D. Psychotic Disorders | IX. Medications for Pain and Inflammation |
| E. Medications for Children and Adolescents Who Have Mental Health Issues | A. Nonopioid Analgesics |
| F. Substance Use Disorders | B. Opioid Agonists and Antagonists |
| G. Chronic Neurologic Disorders | C. Adjuvant Medications for Pain |
| H. Eye and Ear Disorders | D. Miscellaneous Pain Medications |
| I. Miscellaneous Central Nervous System Medications | X. Medications Affecting the Endocrine System |
| J. Sedative-Hypnotics | A. Diabetes Mellitus |
| III. Medications Affecting the Respiratory System | B. Endocrine Disorders |
| A. Airflow Disorders | XI. Medications Affecting the Immune System A. Immunizations |
| B. Upper Respiratory Disorders | XII. Medications for Infection |
| IV. Medications Affecting the Cardiovascular System | A. Principles of Antimicrobial Therapy |
| A. Medications Affecting Urinary Output | B. Antibiotics Affecting the Bacterial Cell Wall |
| B. Medications Affecting Blood Pressure | C. Antibiotics Affecting Protein Synthesis |
| C. Cardiac Glycosides and Heart Failure | D. Urinary Tract Infections |
| D. Angina and Antilipemic Agents | E. Mycobacterial, Fungal, and Parasitic Infections |
| V. Medications Affecting the Hematologic System | F. Viral Infections, HIV, and AIDS |
| A. Medications Affecting Coagulation | XIII. Other Medications |
| | A. Complementary, Alternative, and Integrative Therapies |

Information for Students

- Expectations of Students
 - [Civility Statement](#)
 - [Student Responsibility Statement](#)
 - [Academic Integrity Statement](#)
- [Accessibility Services](#)
Students who require accommodations to complete the requirements and expectations of this course because of a disability must make their accommodation requests to the Accessibility Services Coordinator.
- [Get Help: JCC & Community Resources](#)
- [Emergency Closing Procedures](#)
- Course grade is determined by the instructor based on a combination of factors, including but not limited to, homework, quizzes, exams, projects, and participation. Final course grade can be translated into a grade point value according to the following:

A=4.0	B+=3.5	B=3	C+=2.5	C=2	D+=1.5	D=1	F=0
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- Veterans and active duty military personnel with special circumstances (e.g., upcoming deployments, drill requirements, VA appointments) are welcome and encouraged to communicate these to the instructor.

Effective Date: Fall 2025