STATE UNIVERSITY OF NEW YORK COLLEGE OF TECHNOLOGY CANTON, NEW YORK



# **MASTER SYLLABUS**

LPNC 100 Drug Dosage Calculation and Pharmacology

**CIP Code:** 51.3901

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SCHOOL OF SCIENCE, HEALTH, AND CRIMINAL JUSTICE Department of Nursing Fall 2025 A. TITLE: Drug Dosage Calculation and Pharmacology

## B. COURSE NUMBER: LPNC 100

## C. CREDIT HOURS: 3 Credit Hours

# Credit Hours per Week	3
# Lecture Hours per Week	3
# Lab Hours per Week	0
Other per Week	

## D. WRITING INTENSIVE COURSE:

Yes	
No	Х

## E. GER CATEGORY:

NA

#### F. SEMESTER(S) OFFERED:

Fall	Х
Spring	
Fall and Spring	

## G. COURSE DESCRIPTION:

This course introduces the principles related to pharmacology. It examines a variety of drug classifications and their effects on the body. The course places emphasis on use of the nursing process in drug administration and includes drug calculations.

## H. CO-REQUISITES:

PRACTICAL NURSING CERTIFICATE STUDENTS ONLY

LPNC 101 Practical Nursing Fundamentals BIOL 217 Anatomy and Physiology I ENGL 101 Composition and the Spoken Word PSYC 101 Introduction to Psychology

## I. STUDENT LEARNING OUTCOMES:

Course Student Learning Outcome [SLO]	End of Program		
	Student Learning	GER	ISLO & Subsets
	Outcome [EPSLO]		
a. Students will be able to apply effective communication techniques to re-enforce patient education on medication regimens, and safe medication practices.	Outcome [EPSLO] By the end of the Practical Nursing (PN) program, the student will be able to demonstrate effective communication strategies to document and deliver written and oral communications that are developmentally appropriate, culturally sensitive, and comprehensive in conveying all required information to patients, families, and healthcare	NA	1 [O & W]
b. Students will collect and analyze patient data, evaluate nursing interventions, synthesize information for evidence-based care plans, and justify decisions using critical thinking and the nursing process.	By the end of the Practical Nursing (PN) program, the student will be able to utilize critical thinking skills and evidence-based practices to analyze patient data and implement appropriate nursing interventions within the PN scope of practice, ensuring safe and	NA	2 [CA, IA & PS]

		effective patient		
		care.		
	. Chudanta will be able to damenaturte			
	c. Students will be able to demonstrate	the PN student will		
	foundational nursing skills safely and	be able to perform		
	effectively by applying basic procedures and	foundational		
	techniques, organizing patient care tasks	nursing skills safely		
	effectively, and by evaluating their	by applying basic		
	performance to ensure accuracy and	procedures and		
	competency in various clinical settings.	techniques,		
		organizing patient	ΝΔ	2 [114]
		care tasks	NA NA	5 [101]
		efficiently, and		
		evaluating their		
		performance to		
		ensure accuracy		
		and competency in		
		various clinical		
		settings.		
	d Students will apply ethical reasoning to	By the end of the		
	evaluate complex situations demonstrate	Practical Nursing		
	intercultural competence with diverse	(PN) program the		
	national competence with diverse	student will be able		
	disciplinary teams to integrate different	to ovhibit nursing		
	perspectives into patient care plans.			
		multi-disciplinary		
		teams, and		
		demonstrate		
		cultural	NA	4 [ER, IK, T]
		competence to		
		work effectively		
		with diverse		
		healthcare teams		
		and provide patient		
		care that is		
		respectful,		
		inclusive, and		
		aligned with		
		nursing ethical		
		standards.		
	e. Students will assess patient needs,	The PN student will		
ļ	implement appropriate interventions within	manage patient		
ļ	their scope, evaluate care effectiveness, and	needs, implement		
ļ	collaborate with healthcare teams to enhance	appropriate	NA	5
	outcomes, all within ethical and legal practice	interventions		
ļ	boundaries of the PN licensure.	within their scope.		
		evaluate care		
			1	1

effectiveness, and
collaborate with
healthcare teams
to enhance
outcomes, all
within ethical and
legal practice
boundaries of the
PN licensure.

KEY	Institutional Student Learning Outcomes
	[ISLO 1 – 5]
ISLO #	ISLO & Subsets
1	Communication Skills
	Oral [O], Written [W]
2	Critical Thinking
	Critical Analysis [CA], Inquiry & Analysis [IA] , Problem Solving [PS]
3	Foundational Skills
	Information Management [IM], Quantitative Lit, /Reasoning [QTR]
4	Social Responsibility
	Ethical Reasoning [ER], Global Learning [GL],
	Intercultural Knowledge [IK], Teamwork [T]
5	Industry, Professional, Discipline Specific Knowledge and Skills

## J. APPLIED LEARNING COMPONENT:

Yes	Х
No	

If yes, select [X] one or more of the following categories:

Classroom / Lab	Х	Community Service	
Internship		Civic Engagement	
Clinical Practicum		Creative Works/Senior Project	
Practicum		Research	
Service Learning		Entrepreneurship [program, class, project]	

- K. TEXTS: ATI Comprehensive Package; Assessment Technologies Institute
- L. REFERENCES: <u>https://www.canton.edu/media/pdf/PN-Handbook.pdf</u>
- M. EQUIPMENT: Technology Enhanced Classroom
- N. GRADING METHOD:

 $\begin{array}{l} A &= 90 - 100\% \\ B + = 85 - 89\% \\ B &= 80 - 84\% \end{array}$ 

 $\begin{array}{l} C+=75-79\%\\ C\ =70-74\%\\ D+=65-69\%\\ D\ =60-64\%\\ F\ =59\% \ \text{and below} \end{array}$ 

NOTE: A grade of C+ or better is required for successful completion of all nursing courses and a grade of C or better is required for all co-requisite courses to continue on in the program.

NOTE: All students are required per program policy to pass a drug dosage calculation exam with a grade of 100% to pass this course. Students will be given three opportunities to pass the exam with the required grade of 100%. Failure to achieve a grade of 100% after the third attempt will result in a course grade of "F" or the student may elect to withdraw.

## O. SUGGESTED MEASUREMENT CRITERIA/METHODS:

Formative Exams Homework Assignments/Quizzes Drug Dosage Calculation Exam Standardized Testing (ATI) Comprehensive Final Exam Nursing simulation

#### P. DETAILED COURSE OUTLINE:

- I. Pharmacological Principles
  - A. Pharmacokinetics and Routes of Administration
  - B. Safe Medication Administration and Error Reduction
  - C. Dosage Calculations
  - D. Intravenous Therapy
  - E. Adverse Effects, Interactions, and Contraindications
- II. Medications Affecting the Nervous System
  - A. Anxiety and Trauma- and Stressor-Related Disorders
  - B. Depressive Disorders
  - C. Bipolar Disorders
  - D. Psychotic Disorders
  - E. Medications for Children and Adolescents Who Have Mental Health Issues
  - F. Substance Use Disorders
  - G. Chronic Neurologic Disorders
  - H. Eye and Ear Disorders
  - I. Miscellaneous Central Nervous System Medications
  - J. Sedative-Hypnotics
- III. Medications Affecting the Respiratory System
  - A. Airflow Disorders
  - B. Upper Respiratory Disorders
- IV. Medications Affecting the Cardiovascular System
  - A. Medications Affecting Urinary Output
  - B. Medications Affecting Blood Pressure
  - C. Cardiac Glycosides and Heart Failure
  - D. Angina and Antilipemic Agents
- V. Medications Affecting the Hematologic System

- A. Medications Affecting Coagulation
- B. Growth Factors
- VI. Medications Affecting the Gastrointestinal System and Nutrition
  - A. Peptic Ulcer Disease
  - B. Gastrointestinal Disorders
  - C. Vitamins and Minerals
- VII. Medications Affecting the Reproductive System
  - A. Medications Affecting the Reproductive Tract
- VIII. Medications for Joint and Bone Conditions
  - A. Connective Tissue Disorders
  - B. Bone Disorders
- IX. Medications for Pain and Inflammation
  - A. Nonopioid Analgesics
  - B. Opioid Agonists and Antagonists
  - C. Adjuvant Medications for Pain
  - D. Miscellaneous Pain Medications
- X. Medications Affecting the Endocrine System
  - A. Diabetes Mellitus
  - B. Endocrine Disorders
- XI. Medications Affecting the Immune System A. Immunizations
- XII. Medications for Infection
  - A. Principles of Antimicrobial Therapy
  - B. Antibiotics Affecting the Bacterial Cell Wall
  - C. Antibiotics Affecting Protein Synthesis
  - D. Urinary Tract Infections
  - E. Mycobacterial, Fungal, and Parasitic Infections
  - F. Viral Infections, HIV, and AIDS
- XIII. Other Medications
  - A. Complementary, Alternative, and Integrative Therapies

## Q. LABORATORY OUTLINE: N/A