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

NURS 103 Pharmacology I

Fall 2025

COURSE NUMBER – COURSE NAME

CIP Code: 51.3801

Updated by: Kirsten Andersen

SCHOOL OF SCIENCE, HEALTH & CRIMINAL JUSTICE
Nursing
Fall 2025

A. TITLE: NURS 103 Pharmacology I

B. COURSE NUMBER: NURS 103

C. CREDIT HOURS (Hours of Lecture, Laboratory, Recitation, Tutorial, Activity):

 # Credit Hours: 1
 # Lecture Hours: 1 hour per week
#Lab Hours: NA
#Clinical Hours: NA
1 credit hour = 50 minutes of lecture per week for 15 weeks.
Course Length (# of Weeks): 15

D. WRITING INTENSIVE COURSE: NO

E. GER CATEGORY: Math
Math; Nursing students only

F. SEMESTER(S) OFFERED: Fall

G. COURSE DESCRIPTION: This introductory pharmacology course will explore the basic principles surrounding pharmacology. Topics include basic pharmacological principles, dosage calculations, regulatory compliance, patient education, and reduction of medication errors. Restricted to nursing students.

H. PRE-REQUISITES:
CO-REQUISITES:

I. NURS 101: Fundamentals of Nursing
II. NURS 105: Nursing Seminar
III. BIOL 217: Human Anatomy & Physiology I
IV. ENGL 101: Composition and the Spoken Word

I. STUDENT LEARNING OUTCOMES:

Course Student Learning Outcome [SLO]	***PSLO***	***GER***	***ISLO***	***EPSLOs***
Develop a framework for professional nursing practice that includes specific measures to	Students will apply acquired critical reasoning skills to develop, implement, and evaluate a		. **Critical Thinking-Critical Analysis**	Utilize critical thinking and evidence-based practice to assess, analyze, and respond to complex patient

prevent medication errors.	nursing plan of care			care situations, demonstrating sound clinical judgment and a commitment to quality and safety in nursing practice.
Compare and contrast the life span changes that effect the safe administration of medications. Demonstrate understanding of terminology associated with pharmacology. .	Students will maintain ethical, legal, and professional responsibilities within the Registered Nurse scope of practice and will effectively analyze and apply professional, legal, and ethical standards consistent with the Registered Nurse in conduct and care.		**Social Responsibility-Ethical Reasoning**	Students demonstrate the ability to assess ethical values and the social context of problems, recognize ethical issues, think about how different ethical perspectives might be applied to dilemmas, and consider the ramifications of decisions and actions.
Discuss measures that provide for the safe administration of drugs.	Students will consistently analyze and apply standards of nursing practice in functioning with integrity as a safe entry level nurse.		**Industry, Professional, Discipline-Specific Knowledge and Skills**	The RN student will prioritize patient needs, implement appropriate nursing interventions within their scope, evaluate care effectiveness, and collaborate with healthcare teams to enhance patient care outcomes, all within ethical and legal practice boundaries of the RN licensure.
Discuss measures that		Math GER 4.1	**Foundational skills:**	The RN student will be able to

provide for the safe administration of drugs.		Interpret and draw inferences from appropriate mathematical models such as formulas, graphs, tables, or schematics	**Quantitative Literacy**	demonstrate proficiency in foundational nursing skills essential for care that is safe, holistic, effective, and patient-centered across the lifespan.
Develop a framework for professional nursing practice that includes specific measures to prevent medication errors.		Math GER 4.2 Represent mathematical information symbolically, visually, numerically, or verbally as appropriate	**Communication**	By the end of the Registered Nursing (RN) 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 team members.
Compute safe drug dosages for oral, injectable, and intravenous administration.		Math GER 4.3 Employ quantitative methods such as arithmetic, algebra, geometry, or statistics to solve problems		

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__X____** **No_____**

If Yes, select one or more of the following categories:

Classroom/Lab_X__
Internship___
Clinical Practicum___
Practicum___
Service Learning___
Community Service___
Civic Engagement___
Creative Works/Senior Project___
Research___
Entrepreneurship___
(program, class, project)

K. TEXTS:
ATI Bundled Package

L. REFERENCES: None

M. EQUIPMENT: technology enhanced classroom

N. GRADING METHOD: A-F
*
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 in the program. **There is no rounding of grades.**

O. SUGGESTED MEASUREMENT CRITERIA/METHODS:
Exams
Final Exam
Dosage Calculation Exam
Homework/Tickets to Class

P. DETAILED COURSE OUTLINE:

I. Concepts Basic to Pharmacology
A. Drug transport through cell membranes
B. Pharmacokinetics
C. Pharmacodynamics
a. Variables that Affect Drug actions
b. Age Related
c. Disease Related
D. Adverse Effects
E. Therapeutic vs. Toxic
II. Safety in Drug Administration
III. Sources of Drug Information
VI. Medication Administration
A. General Principles
B. Legal Responsibilities
C. Preventing Medication Errors
D. Drug Preparations and Dosage Forms
E. Calculating Drug Doses
1. Metric and Household Measurements Converting between Systems
2. Drug Abbreviations, Labels, and Packaging
3. Calculation of Oral Medications (Solids and Liquids)
4. Injections
a. Determining the correct amount
b. Reconstitution
c. Insulin
5. Calculating IV Drip Rates
6. Calculating units/hour or mg/hour
7. Calculating Medications orders in mcg/minute or mcg/kg/minute
8. Calculating Heparin and Insulin IV
9. Calculating Dosage based on weight

Q. LABORATORY OUTLINE: None