

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



**COURSE OUTLINE**

NURS 103 Pharmacology I

**Prepared By:** John Conklin, Professor

**SCHOOL OF SCIENCE, HEALTH AND CRIMINAL JUSTICE  
Nursing Department  
April 2015**

- A. **TITLE:** Pharmacology I
- B. **COURSE NUMBER:** NURS 103
- C. **CREDIT HOURS:** 1
- D. **WRITING INTENSIVE COURSE:** No
- E. **COURSE LENGTH:** 15 weeks
- F. **SEMESTER(S) OFFERED:** Fall
- G. **HOURS OF LECTURE, LABORATORY, RECITATION, TUTORIAL, ACTIVITY:** 1 hour lecture each week Note: 1 credit= 50 minutes of lecture per week
- H. **CATALOG 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.
- I. **PRE-REQUISITES/CO-REQUISITES:**
- NURS 101 – Fundamentals of Nursing
  - NURS 105 – Nursing Seminar
  - ENGL 101 - Composition and the Spoken Word

J. **GOALS (STUDENT LEARNING OUTCOMES):**

By the end of this course, the student will be able to:

<b><i>Course Student Learning Objective (SLO)</i></b>	<b><i>Institutional SLO</i></b>
1. Demonstrate understanding of terminology associated with pharmacology	1. Communication 3. Professional Competence 4. Inter/Intrapersonal
2. Compare and contrast the life span changes that effect the safe administration of medications.	2. Critical Thinking 3. Professional Competence 4. Inter/Intrapersonal
3. Discuss measures that provide for the safe administration of drugs.	1. Communication 3. Professional Competence
4. Develop a framework for professional nursing practice that includes specific measures to prevent medication errors.	2. Critical Thinking 3. Professional Competence
5. Compute safe drug dosages for oral, injectable, and intravenous administration.	2. Critical Thinking

**K. TEXTS:**

Bucholz, S. (2012). *Henke's med-math dosage calculation, preparation, & administration*, (7<sup>th</sup> Ed.). Philadelphia: Lippincott, Williams, & Wilkins.

Frandsen, G. & Smith Pennington, S. (2013). *Abram's clinical drug therapy rationales for nursing practice*, (10<sup>th</sup> Ed.). Philadelphia: Lippincott, Williams, & Wilkins.

Frandsen, G. (2014). *PrepU for Frandsen's Abrams' Clinical Drug Therapy*. (10th Ed.). Philadelphia, PA: Wolters Klowers/Lippincott Williams & Wilkins.

**L. REFERENCES: None**

**M. EQUIPMENT: Technology enhanced classroom, Portable computer with internet access**

**N. GRADING METHOD: A-F**

**N. MEASUREMENT CRITERIA/METHODS:**

- Quizzes
- Case Studies
- Exams
- Final exam

**P. DETAILED COURSE OUTLINE:**

I. Concepts Basic to Pharmacology

- A. Drug transport through cell membranes
- B. Pharmacokinetics
- C. Pharmacodynamics
  - 1. Variables that Affect Drug actions
    - a. Age Related
    - b. 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 base on weight

**Q. LABORATORY OUTLINE: None**