



ILLINOIS VALLEY COMMUNITY COLLEGE

COURSE OUTLINE

DIVISION: Nursing

COURSE: NUR 1100 Foundations of Medication Administration

Date: Spring 2023

Credit Hours: 2

Complete all that apply or mark "None" where appropriate:

Prerequisite(s): Acceptance into the Nursing Program

Enrollment by assessment or other measure? Yes No

If yes, please describe:

Corequisite(s): NUR 1200

Pre- or Corequisite(s): None

Consent of Instructor: Yes No

Delivery Method:	<input checked="" type="checkbox"/> Lecture	2 Contact Hours (1 contact = 1 credit hour)
	<input type="checkbox"/> Seminar	0 Contact Hours (1 contact = 1 credit hour)
	<input type="checkbox"/> Lab	0 Contact Hours (2-3 contact = 1 credit hour)
	<input type="checkbox"/> Clinical	0 Contact Hours (3 contact = 1 credit hour)

Offered: **Fall** **Spring** **Summer**

CATALOG DESCRIPTION and IAI NUMBER (if applicable):

This course covers the foundations of medication administration required for the student nurse to calculate medication dosages and administer medications in the health-care setting safely and accurately. The course includes a review of basic math principles. Systems, conversions, and methods of drug calculations are learned. Dosage formulas introduced include: basic formula and dimensional analysis to allow students to implement the methodology of preference. Foundational concepts such as interpreting drug labels, drug orders, accessing medication, and documenting medication administration will be covered. Dosage formulas will be applied to calculating oral, injectable, and intravenous drugs, as well as calculations for pediatric clients.

ACCREDITATION STATEMENTS AND COURSE NOTES:

The IVCC Associate Degree Nursing Program is accredited by the Accreditation Commission for Education of Nursing (ACEN). This course is part of the nursing curriculum used to prepare students for entry into the nursing profession. Students must earn a C or better in this course to progress in the nursing program.

COURSE TOPICS AND CONTENT REQUIREMENTS:

1. Review basic math principles
2. Solve drug calculations related to systems and conversions between metric, apothecary, and household measurements.
3. Interpret drug labels and drug orders
4. Explain difference between military and traditional time
5. Recognizes documentation of medication administration as a legal safeguard
6. Understands dosage formula (basic formula and dimensional analysis)
7. Performs dosage calculations using preferred dosage formula
8. Calculate the dosage amounts of tablets, capsules, and liquid volumes (oral or parenteral) needed to administer the prescribed drug
9. Calculate drug doses according to body weight
10. Calculate the amount of drug doses to given per day in divided dose
11. Calculate the drug dosage for IV medications including IV flow rates (drops per minute, milliliters per hour)
12. Discuss factors influencing pediatric drug administration
13. Differentiate pediatric drug dosage from adult dosage
14. Calculate pediatric drug dosages using weight-based formula

INSTRUCTIONAL METHODS:

Blended Instructional Delivery (face-to-face, synchronous and/or asynchronous virtual)

Podcasts

Sherpath Lessons

Adaptive Quizzing

Worksheets

Quizzes

Exams

EVALUATION OF STUDENT ACHIEVEMENT:

Grading Scale: The Nursing Program grading scale as outlined in the Nursing Handbook

93-100 A

86-92 B

80-85 C

70-79 D

Below 70 F

A grade of 80.00% (with no rounding) or above is required to pass the course.

Evaluation Methods:

Introductory Basic Math Assessment

Weekly Sherpath Lessons

Weekly Quizzes
Exams
HESI Dosage Calculation Exam

INSTRUCTIONAL MATERIALS:

Textbooks

Kee, J. L., Marshall, S. M., Woods, K., & Forrester, M.C., (2023). *Clinical Calculations: With Applications to General and Specialty Areas (10th ed)*. Elsevier
Lilley, L.L, Collins, S. R., & Snyder, J.S (2023). *Pharmacology and the Nursing Process (10th ed)*., Elsevier

Resources

Evolve Programs
 Sherpath and EAQ for Kee, Marshall, Woods, & Forrester
 Sherpath for EAQ for Lilley, Collins, & Snyder
IVCC Nursing Program Handbook (2023-24)

Technology Needs

Working computer, laptop
Internet Access
Respondus Lock Down Browser
Zoom
Calculator

LEARNING OUTCOMES AND GOALS:

Institutional Learning Outcomes

- 1) Communication – to communicate effectively;
- 2) Inquiry – to apply critical, logical, creative, aesthetic, or quantitative analytical reasoning to formulate a judgement or conclusion;
- 3) Social Consciousness – to understand what it means to be a socially conscious person, locally and globally;
- 4) Responsibility – to recognize how personal choices affect self and society.

Course Outcomes and Competencies

Upon completion of the course, the student will be able to:

1. Demonstrate understanding of systems used for drug administration
 - 1.1 Identify the three measurement systems (metric, apothecary, and household) utilized to calculate medication dosages.
 - 1.2 Perform the calculations necessary to convert a measurement expressed in one standard unit within the system to a measurement expressed in another unit within that same system, for the metric, apothecary, or household system.
2. Apply understanding of systems used for drug administration to perform necessary conversions and calculations:
 - 2.1 Convert length, weight, and volume between metric and household measurements.
 - 2.2 Perform accurate dosage calculations requiring conversions to obtain prescribed dose.

3. Apply preferred drug calculation formulas to accurately determine drug dosages
 - 3.1 Calculate medication dosages utilizing the basic formula
 - 3.2 Calculate medication dosages utilizing dimensional analysis

4. Demonstrate principles of safe medication administration.
 - 4.1 Demonstrate a basic knowledge of the abbreviations utilized in the administration of medications.
 - 4.2 Identify the differences between brand names and generic names of medications.
 - 4.3 Accurately interpret medication labels to calculate prescribed dosage
 - 4.4 Interpret the components of a medication order
 - 4.5 Identify the “rights” of safe medication administration.
 - 4.6 Accurately interpret military times versus standard time
 - 4.7 Recognize accurate documentation of the administration of medications

5. Differentiates calculations required for various routes of medication administration.
 - 5.1 Accurately determines dosages for medications administered by oral and parenteral routes
 - 5.2 Identify various forms of intravenous medications.
 - 5.3 Accurately calculate IV flow rates and IV medication dosage rates

6. Identify difference in pediatric versus adult drug calculations
 - 6.1 Discuss factors influencing pediatric medication administration.
 - 6.2 Accurately calculate pediatric drug dosages using a weight-based formula