

Imperial Valley College
Division of Nursing Education and Health Technologies
Spring Semester 2014
Nursing 100 – Medication Mathematics CRN 20826
Thursday 0800 – 1005 room 2139
Dates: Mar 20th – May 16th **Drop Date with "W" MAY 1ST**

Instructor: Kristi Gillespie, BSN, RN
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Required Book: We will be using tutorials on <https://atitesting.com>

Recommended CD/Book: Calculating Drug Dosages: An Interactive Approach to Learning Nursing Math, 3rd Edition
by **Sandra Luz Martinez de Castillo**, RN, MA, EdD Copyright © 2012 **F.A. Davis Company**

I. Course Description:

This course focuses on those components of safe medication calculation and administration. The emphasis is on accuracy of calculation and the critical thinking involved in client/patient safety. This is an intense class on med math calculations that is required of all RN majors. Clinical application is integrated into the clinical nursing courses.

In NURS 100, the student is required to apply mathematical principles to the calculation of drug dosages. This includes addition, subtraction, multiplication and division of decimals and fractions. A thorough knowledge of the metric system with emphasis on the conversions is required. Dimensional analysis as it applies to calculating drug dosages is included.

II. Course Objectives:

1. Calculate basic mathematic problems including addition, subtraction, multiplication & division of fractions & decimals.
2. Convert metric, apothecary and household measures accurately.
3. Solve dosage problems using dimensional analysis
4. Calculate adult & pediatric dosages.
5. Calculate intravenous flow rates.
6. Interpret drug orders and labels relevant to the safe administration of drugs.
7. Discuss the "Six rights" of clients relative to administration of medications.
8. Describe the routes of administration.

III. Specific Course Information

1. **The passing course grade is 75%.**
2. **Exams will be given periodically during the course. Exams will count for 75% of the final grade.**
3. **Final exam will count for 25% of the grade. The Final Exam must be passed with a 75%,**
4. **Nursing Course grades are based on the following scale.**
A= 92-100%
B= 83-91%
C= 75-82%
D=68-74%
F= Below 68% (No Makeup exams will be given!)

Attendance:

According to the Imperial Valley College catalog: Regular attendance in all classes is expected of all students enrolled. Instructors are expected to take a student's record into account in computing grades. A student may be excluded from further attendance in a class during any semester when absences after the close of registration have exceeded the number of class hours which the class meets per week. Further, an instructor may drop any student judged to be a disturbing element in the class.

However, the attendance policy of the nursing program is further implemented as follows:

Absences will be limited to four (4) hours for the course.

Drug Dosage Calculation Description:

This class will present the dimensional analysis method as a tool to use in solving all drug dosage calculation problems.

Unit Outcome Competencies:

The student will practice problems in class, in the Nursing Learning Center and at home to develop proficiency in calculations.

Student Learning Outcomes.

Upon completion of this class the student will be able to:

1. Calculate the flow rate of a simple primary intravenous line in ml/hr or drops/min as measured by one (1) randomly selected question on the final exam with a class average for the measured question at 92% or better.
2. Pass a comprehensive final exam on dosage calculations at 75% including critical care and pediatric problems.

Student Learning Activities:

To assist in learning the content the student will:

1. Complete problems in the assigned references
2. Complete problems on the assigned study guides

Date	Day	Time	Description	Instructor	Assignment Due
03/20/14 Week 1	TH	0800-1005	Introduction to Course Basic Math Review 1. Fractions 2. Decimals 3. Percents 4. Ratios 5. Proportions 6. Solve for (X) 7. Roman Numerals 8. Rounding 9. Conversion Tables.	Gillespie	Study Guides by Marylynn Carlson
03/27/14 Week 2	TH	0800-1005	EXAM 1: Basic Math Systems of Measurement 1. Dimensional Analysis Concept Introduction.) 2. Conversion Tables 3. Metric System Units of Weight 4. Apothecaries' System 5. Household System 6. Dimensional Analysis and conversions between systems 7. Temperature Conversion Formulas 8. Military Time	Gillespie	Study Guides by MC
04/03/14 Week 3	TH	0800-1005	Exam 2: Conversions in and between systems of Measurements, Temp & Time Prep for Calculation of Drug Dosages. 1. Safety in Medication Adm. 2. Interpretation of Phys. Orders 3. How to read Drug Labels. 4. Abbreviations 5. Unit Dose Dimen. Analysis 1-2 Factors 1. Oral Medications 2. Parenteral Dosages IVP, IM,SC 3. Dosages in Units.	Gillespie	Study Guides by MC
04/10/14 Week 4	TH	0800-1005	Dimen. Analysis 1-2 Factors 1. Oral Medications 2. Parenteral Dosages IVP, IM,SC 3. Dosages in Units. IV Fluids 1. Tubing: Micro, Macro, Blood. 2. Primary Line Flow rates (gtts/min) 3. Piggy Back Flow Rate(gtts/min) 5. Blood Flow rates 6. Specialty IV: Ins & Hep & Units	Gillespie	Study Guides by MC

04/17/14 Week 5	TH	0800-1005	Exam 3: Dimen. Analysis: Oral, Parenteral Dosages, and IV's IV Fluids (cont) 4. Using an IV Pump 5. Blood Flow rates 6. Specialty IV: Ins & Hep & Units Multifactor Problems Critical Care Problems 1. mcg/kg/min 2. mcg/min 3. reverse calculations 4. Verifying rates. 5. x-factors.	Gillespie	Study Guides by MC
04/24/14 Week 6	TH	0800-1005	Spring Break ☺	Gillespie	
05/01/14 Week 7	TH	0800-1005	Exam 4: IV's Primary, Piggy, Speciality, Blood. (Gtts/min & ml/hr). Multifactor Problems Critical Care Problems 1. mcg/kg/min 2. mcg/min 3. reverse calculations 4. Verifying rates. 5. x-factors. Pediatric Problems 1. Wt based Peds Problems 2. Peds rounding rules.	Gillespie	Study Guides by MC
05/08/14 Week 8	TH	0800-1005	Exam 5 Critical Care Calculations. Pediatric Problems Review for final	Gillespie	
05/15/14 Week 9	TH	0800-1005	Final Exam ☺	Gillespie	

***Print all math practice sheets from computer and bring them to class. You will find them on Blackboard.**