

Imperial Valley College
Division of Nursing Education and Health Technologies
Spring Semester 2013

Nursing 100 – Medication Mathematics
CRN 20446 & 20447

Thursday 0835 – 1040 room 2139

Dates: Jan 17th – Mar 7th · Drop Date with "W" Feb 21st

Instructor: Pam Hansink, BSN, RN
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Required Book: Dimensional Analysis for Meds, 4th Edition Anna M. Curren, MA, RN Copyright © 2010 Delmar Cengage Learning

Recommended CD/Book: Calculating Drug Dosages: An Interactive Approach to Learning Nursing Math, 2nd Edition by Sandra Luz Martinez de Castillo, RN, MA, EdD Copyright © 2010 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.

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.**
4. **Final exam will count for 25% of the grade. The Final Exam must be passed with a 75%,**
5. **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!)

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

Nursing 100 - Medication Math Schedule

Date	Day	Time	Description	Instructor	Assignment Due
01/17/13 Week 1	TH	0835-1040	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.	Hansink	Curren Ch 1-3 Study Guides by Marylynn Carlson CDD-Cd Module basic math review
01/24/13 Week 2	TH	0835-1040	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	Hansink	Curren Ch. 4, 5, Ch 12 Study Guides by MC Study Guides by MC CDD-Cd Methods of Calculation-DM CDD-CD System of measurements
01/31/13 Week 3	TH	0835-1040	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.	Hansink	Curren ch 4, 6,7, 8,9,10,11,12 Study Guides by MC In class Handouts CDD-CD Reading medication labels
02/07/13 Week 4	TH	0835-1040 900 – 1115	Exam 3: Dimen. Analysis: Oral, Parenteral Dosages, and Units. IV Fluids 1. Tubing: Micro, Macro, Blood. 2. Primary Line Flow rates (gtts/min) 3. Piggy Back Flow Rate(gtts/min)	Hansink	Curren ch 15,16,17,18,19 CDD-CD Administration of Oral Medication, syringes and needles, administration of Parenteral Medications, IV Calculations
02/14/13 Week 5	TH	00835-1040 900 – 1115	IV Fluids (cont) 3. Piggy Back Flow Rate(gtts/min) 4. Using an IV Pump 5. Blood Flow rates 6. Specialty IV: Ins & Hep & Units	Hansink	Curren Ch 15, 16,17,18,19 CDD-CD Administration of Oral Medication, syringes and needles, administration of Parenteral Medications, IV Calculations

02/21/13 Week 6	TH	0835-1040	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.	Hansink	Curren Ch 15, 16,17,18,19
02/28/13 Week 7	TH	0835-1040	Exam 5 Critical Care Calculations. Pediatric Problems 1. Wt based Peds Problems 2. Peds rounding rules.	Hansink	Curren Ch 13,14,20, 21, CDD-cd Pediatric Calculations
03/07/13 Week 8	TH	0835-1040	Final Exam ☺	Hansink	

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