Imperial Valley College
Division of Nursing Education and Health Technology
Fall Semester 2013

Nursing 100 – Medication Mathematics CRN 10724

Thursday 0800 – 1005 room 2139

Dates: Oct. 17th – Dec. 5th **Drop Date with "W" Nov. 14th**

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

	Day	Time	Description	Instructor	Assignment Due
10/17 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.	Hansink	Curren Ch 1-3 Study Guides by Marylynn Carlson *Solve for X *Roman Numerals *Conversion Table CDD-Cd Module basic math review
10/24 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 **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	Hansink	Curren Ch. 4, 5,6,7,9,10,11, 12 Study Guides by MC *System Conversions *Conversion Table CDD-Cd Methods of Calculation-DM CDD-CD System of measurements
10/31 Week 3	TH	0800-1005	**Exam 2: Conversions in and between systems of Measurements, Temp & Time** **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**	Hansink	Curren ch 4, 6,7, 8,9,10,11,12 Study Guides by MC *Dosage Calculations *IV's *IVPB's CDD-CD Reading medication labels

11/07 Week 4	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.	Hansink	Curren ch 4, 6,7, 8,9,10,11,12,15,16,17,18,19 Study Guides by MC *Special IV's *Critical Care IV's *Peds CDD-CD Adminstration of Oral Medication, syringes and needles, administration of Parenteral Medications, IV Calculations
11/14 Week 5	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. **Pediatrics**	Hansink	Curren Ch 13, 14, 15, 16,17,18,19, 20, 21 Study Guides by MC *Peds *Critical Care CDD-cd Pediatric Calculations CDD-CD Adminstration of Oral Medication, syringes and needles, administration of Parenteral Medications, IV Calculations
11/21 Week 6	TH	0800-1005	. **Exam 5 Critical Care Calculations. Pediatric Problems**	Hansink	. Curren Ch 13,14,15,16,17, 18, 19,20, 21,
11/28 Week 7	TH	0800-1005	. NO SCHOOL HAPPY THANKSGIVING	Hansink	
12/05 Week 8	TH	0800-1005	**Final Exam ☺**	Hansink	

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