IMPERIAL VALLEY COLLEGE

Welcome to Medication Mathematics

I am grateful you are taking this class; in the next weeks we will learn the components of safe medication calculation and administration. There will be interactive activities, videos, and fun activities to enhance your learning. This intense course consists of learning how to accurately do med math calculations, integrating critical thinking. I am committed to making this course as engaging and productive as possible. There is a lot to learn in a few weeks but there is no need to make this boring.

Why Dosage Calculations?

This is an essential course for all nursing majors. The course emphasizes on safe medication calculation. I warn you this is an intense class but with your commitment, no student is left behind. By the end of this class, you will be able to solve dosage calculations utilizing dimensional analysis and you will also be able to apply critical thinking involved in client safety. I am sure you will figure it out.

Learning Styles

This is a face-to-face modality, in addition to that I am integrating different learning style strategies to facilitate your learning.

Here is the link & PROMO CODE to purchase Dosage Calc 360 Online Program (Required)
No need to buy a book, this Complete Online Program will guide us through the course.

Once you purchase the program, here is the link to join the course. (CLASS ID 2F3B109724)
The first assignment is Basic Math (Intro to Fractions & Decimals) Due Date 4/15/22

Students, I am available to meet with you. Please contact me to set up an appointment after class or via email. My goal is for you to successfully pass this course.

Mrs. Bravo

IMPERIAL VALLEY COLLEGE

MEDICATION MATH – NURSING 100

Basic Course Information

Semester:	**Spring 2022**	Instructor Name:	**Carmen Bravo RN, MSN**
Course Title & #:	**Medication Math**	Email:	**Carmen.bravo@imperial.edu**
CRN #:	**20556**	Webpage (optional):	**Imperial Valley College**
Classroom:	**313B**	Office #:	**760-355-6191**
Class Dates:	**April 11- June 10 2022**	Office Hours:	**This time is for you.**
Class Days:	**Fridays**	Office Phone #:	**Nursing Office 760-355-6428**
Class Times:	**8:00 AM-10:05 AM**	Emergency Contact:	**Nursing Office**
Units:	1	Class Format:	Face-to-Face (On Ground)

**********Deadline to drop WITH "W" is May 14 2022**********

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 evolved in client safety. This is an intense class on med math calculations that is required of all nursing majors. Clinical application is integrated into the clinical nursing courses. (CSU)

Course Prerequisite(s) and/or Corequisite(s)

None

Student Learning Outcomes

Upon completion of this class the student will be able to: Demonstrate understanding by passing a comprehensive final exam on dosage calculations at 78% or higher and overall grade for course of 78% or higher. (ILO2, ILO4) (ILO2, ILO4)

Course Objectives

Upon satisfactory completion of the course, students will be able to:

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 "Seven rights" of clients relative to administration of medications.
8. Describe the routes of administration, po, IM, IV

Textbooks & Other Resources or Links

- Dosage Calc 360 4-year access. Sandra Luz Martinez de Castillo, Maryanne Werner-McCulloug. FA Davis 2019, ISBN 9780803677135
-

Course Requirements and Instructional Methods

During the 2022 Spring Session, NURS100 is offered on ground.

Classroom work:
• Weekly modules and assignments open on Sunday 1200am and are due on Saturday @1159pm
• The student is expected to attend and participate in class.
• Tests: There will be exams covering the topics reviewed in the weekly modules. EXAMS will be taken in Canvas using monitoring system HonorLock or classroom.

THERE ARE NO MAKE-UP EXAMS REGARDLESS OF EXCUSE.

Assignments:
There will be homework assignments from the required Dosage Calc 360 (FA Davis) online site. These are part of your grade. These assignments will be outlined in Canvas. The assignment will cover the topics discussed in modules and on Dosage Calc 360.

A student shall treat this course like a job.
There will be:
⇒ Homework: Chapter assignments in Dosage Calc 360 (points are assigned by the activity) overall percentage (100 points)
⇒ Weekly Activities (25-35 points each)
⇒ Weekly Exams (25-35 points each)
1 Final Exam (100 points)

Late work will be accepted with a 10% deduction per day, until Sunday of the following week. After Monday late work will not be accepted.

Online and Hybrid courses must demonstrate compliance with the IVC Regular and Effective Contact Policy for Distance Education.

Out of Class Assignments:
The Department of Education policy states that one (1) credit hour is the amount of student work that reasonably approximates not less than one hour of class time and two (2) hours of out-of-class time per week over the span of a semester. WASC has adopted a similar requirement.

Taking EXAMS from Home with HONORLOCK

- ***Honorlock*** *will proctor your exams this semester. Honorlock is an online proctoring service that allows you to take your exam from the comfort of your home. You DO NOT need to create an account or schedule an appointment in advance. Honorlock is available 24/7, and all that is required is a computer, a working webcam/microphone, your ID, and a stable internet connection.*

To get started, you will need Google Chrome and download the Honorlock Chrome Extension (Links to an external site.).

When you are ready to complete your assessment, log into Canvas, go to your course, and click on your exam. Clicking "Launch Proctoring" will begin the Honorlock authentication process, where you will take a picture of yourself, show your ID, and complete a scan of your room. Honorlock will be recording your exam session through your webcam, microphone, and recording your screen. Honorlock also has an integrity algorithm that can detect search-engine use, so please do not attempt to search for answers, even if it's on a secondary device.

Honorlock support is available 24/7/365. If you encounter any issues, you may contact them through live chat on the support page (Links to an external site.) or within the exam itself. Some guides you should review are Honorlock MSRs (Links to an external site.), Student FAQ (Links to an external site.), Honorlock Knowledge Base (Links to an external site.), and How to Use Honorlock

Course Grading Based on Course Objectives

Course Grading Based on Course Objectives:

This is a nursing course therefore the grading is per the nursing department grading scales.
A = 93-100%
B = 84-92%
C = 78-83%
F = Below 78%

Course Policies

ATTENDANCE

• A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of an online class will be dropped by the instructor as of the first official meeting of that class. Should readmission be desired, the student's status will be the same as that of any other student who desires to add a class. It is the student's responsibility to drop or officially withdraw from the class. See General Catalog for details.

• Regular attendance in all classes is expected of all students. A student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week may be dropped. For online courses, students who fail to complete required activities for two consecutive weeks may be considered to have excessive absences and may be dropped.

• If a student leaves the class early, or after the break without notifying the instructor, this will constitute an absent equal to the number of hours absent that day

• Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as 'excused' absences

ONLINE NETIQUETTE

• What is netiquette? Netiquette is internet manners, online etiquette, and digital etiquette all rolled into one word. Basically, netiquette is a set of rules for behaving properly online.

• Students are to comply with the following rules of netiquette:

a. identify yourself,
b. includes a subject line
c. avoid sarcasm
d. respect others' opinions and privacy
e. acknowledges and return messages promptly
f. copy with caution
g. does not spam or junk mail
h. be concise
i. use appropriate language
j. use appropriate emoticons (emotional icons) to help convey meaning
k. use appropriate intensifiers to help convey meaning **[do not use ALL CAPS or multiple exclamation marks (!!].**

CLASSROOM ETIQUETTE

• Electronic Devices: Cell phones and electronic devices must be turned off and put away during class, including online class, unless otherwise directed by the instructor. Electronic watches that can access internet are not allowed in class during examinations.

• Food is prohibited in all classrooms/online classroom. Drinks and Water bottles with lids/caps are the only exception.

• Disruptive Students: Students who interfere or disrupt a class may be dismissed from class and meet with the Campus Disciplinary Officer before returning to continue with coursework. Disciplinary procedures will be followed as outlined in the General Catalog.

• Children in the classroom: Due to college rules and state laws, only students enrolled in the class may attend; children are not allowed in the classroom, including online/zoom classes. Please keep background noise low or mute when attending online zoom classes.

ACADEMIC HONESTY

Academic honesty in the advancement of knowledge requires that all students and instructors respect the integrity of one another's work and recognize the important of acknowledging and safeguarding intellectual property. There are many different forms of academic dishonesty. The following kinds of honesty violations and their definitions are not meant to be exhaustive. Rather, they are intended to serve as examples of unacceptable academic conduct.

- Plagiarism is taking and presenting writings or ideas of others, without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and preparing written materials. If you do not understand how to "cite a source" correctly, you must ask for help.

- Cheating is defined as fraud, deceit, or dishonesty in an academic assignment, or using or attempting to use materials, or assisting others in using materials that are prohibited or inappropriate in the context of the academic assignment in question.

Anyone caught cheating or plagiarizing will receive a zero (0) on the exam or assignment, and the instructor may report the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Please refer to the General Catalog for more information on academic dishonesty or other misconduct.

Acts of cheating include, but are not limited to, the following:

a. plagiarism
b. copying or attempting to copy from others during an examination or on an assignment
c. communicating test information with another person during an examination
d. allowing others to do an assignment or portion of an assignment; (e)using a commercial term paper service.

Other Course Information

CIVILITY

Civility is treating others and ourselves with respect, dignity and care. Civility is evident when we are sensitive to the impact that our communications, and behaviors have on others, and when we acknowledge each other's self-worth and unique contributions to the community as a whole. Incivility includes any and all forms of disrespect, behavior misconduct or disregard for instruction, the instructor or a fellow student. Students are expected to adhere to the standards of Student Conduct and the regulations adopted by the college. behavior misconduct. Students will treat faculty and other students with respect. Students are expected to promote self-accountability for their actions and foster respectful and professional conduct in all academic interactions. Students should report any form of harassment, disrespect or threatening action. Violations are subject to student disciplinary actions, including but not limited to the removal, suspension or expulsion of a student. Education Code Section 76034, IVC Code of Student Conduct.

IVC Student Resources

IVC wants you to be successful in all aspects of your education. For help, resources, services, and an explanation of policies, visit http://www.imperial.edu/studentresources or click the heart icon in Canvas.

- Disabled Student Programs and Services (DSP&S) office is in Building 2100, telephone 760-355-6313. • Student Health Center. A Student Health Nurse is available on campus. Make appointment online or contact 760-355-6128.

IMPERIAL VALLEY COLLEGE

Anticipated Class Schedule/Calendar

********Tentative, Subject to change without prior notice********

Date or Week	Activity, Assignment, and/or Topic	Pages/ Due Dates/Tests
Week 1 April 15 Review	**Student will be learning:** Students will be introduced to the online course environment, Syllabus, Introduction, IVC policies and procedures. Students will also learn more about their online classmates. **Week 1 Objectives:** **By the end of this unit, students will be able to:** ⇒ Read & Understand the Syllabus ⇒ Complete the Getting Started module ⇒ Enroll and learn the Dosage Calc 360 online ⇒ Know more about your fellow online classmates Learn and understand the dimensional analysis method of dosage and drug calculations. **Week 1 Assignment** 1. Purchase the textbook: 2. This is the e-book and online activities that you will be using. I have put the Instructions in the Modules on how to register 3. Read & Understand the Syllabus 4. Read & Understand the Getting Started Module and Course Policies 5. Read & Understand Week 1 Modules M1-M2. 6. 1st Week Attendance 7. Read and complete Assignments due on Canvas and Dosage Calculation 360 ○ **M1 Basic Math** ○ **M2 Safety in Medication Administration**	*Dosage Calc 360* Online Module 1-2 Due April 24 CANVAS
Week 2 April 22	**********NO SCHOOL ********** ********CAMPUS CLOSED APRIL 18-23**********	
Week 3 April 29	**Students will be learning:** ⇒ How to convert between household measurements to metric system measurements.	*Dosage Calc 360* *CANVAS*

Date or Week	Activity, Assignment, and/or Topic	Pages/ Due Dates/Tests
	⇒ Recognize that drugs dosages are measured in units, milliequivalents, grams, micrograms and milligrams. ⇒ Components of administering medications Reading a drug label to be able to determine how the dosages will be calculated **Week 3 Objectives:** **By the end of this week students will be able to:** ⇒ List the commonly used units of measure in the metric system. ⇒ Express metric weights and volumes using correct notation rules. ⇒ Convert metric weights and volumes within the system. ⇒ Recognize dosages: o Measured in units. o Measured as percentages. o Using ratio strengths. o Measured in milliequivalents. o In household measures. o In the apothecary measures **Week 3 Assignment:** ⇒ Review the study guide for Week 2 ⇒ Review the PowerPoints for **M3 and M6 Dimensional Analysis** ⇒ Review and complete the Exercises on **M3 and M6** ⇒ There is an EXAM this week. ⇒ Complete the Week 2 exam in Canvas	
Week 4 May 6	**Student will be learning:** This week students will learn how to prepare medications using oral, parenteral and powder forms of drugs and how to calculate the appropriate amounts from the problems listed in the study guides.	*Dosage Calc 360* *CANVAS*

Date or Week	Activity, Assignment, and/or Topic	Pages/ Due Dates/Tests
	Week 4 Objectives: **By the end of this week students will be able to:** ⇒ prepare solutions from powdered drugs using directions printed on vial labels. prepare solutions from powdered drugs using drug literature or inserts. ⇒ determine the expiration date and time for reconstituted drugs. ⇒ calculate dosages for reconstituted drugs, oral medications in solid and liquid form and medications measured in milliequivalents ⇒ calculate dosages based on weight. ⇒ calculate average parenteral dosages from the labels provided **WEEK 4 Assignment:** ⇒ Read **M10 Calculating Parenteral Medication Dosages, M11 Preparing Powdered Parenteral Medications, M12 Administering Insulin** ⇒ Review power points in Week 3 ⇒ Study Guides posted in Week 3 ⇒ Complete Assignment Week 3 ⇒ Complete Exam #3 and Discussion in Canvas ⇒ Review and complete the exercised in Dosage Calculation 360	
Week 5 May 13	**Student will be learning:** This week the students will start to learn about intravenous (IV) solutions, how to calculate IV flow rates using gravity and by using electronic infusion devices. **Week 5 Objectives:** **By the end of this unit, students will be able to:** ⇒ differentiate between primary, secondary, peripheral, and central IV lines. ⇒ explain the function of IV drip chambers, roller and slide clamps, and on-line and indwelling injection	*Dosage Calc 360* *CANVAS*

Date or Week	Activity, Assignment, and/or Topic	Pages/ Due Dates/Tests
	ports. differentiate between volumetric pumps, syringe pumps, and PCAs. ⇒ identify the abbreviations used for IV fluid orders. ⇒ identify the calibrations in gtt/mL (drops/mL) on IV administration sets. ⇒ calculate flow rates using dimensional analysis. ⇒ flow rates to infuse ordered dosages. ⇒ heparin dosages. ⇒ mL/hr flow rates for an Electronic Infusion Device (EID) or IV pump. **WEEK 5 Assignment:** ⇒ Review the study guides and videos for the study guides for Week 4 IV's. ⇒ Review the PowerPoints for **M13 Calculating for IV Medications and Infusions, M14 Administering Direct IV Medications, M16 Titration** ⇒ Review and complete the Exercises in Dosage Calc 360 ⇒ Complete the Week 4 exam and discussion on Canvas.	
Week 6 May 20	**Student will be learning:** This week students will learn the importance of calculating pediatric dosages correctly **Week 6 Objectives:** **By the end of this unit, students will be able to:** ⇒ explain how suspensions are measured and administered. ⇒ calculate pediatric oral dosages. ⇒ list the precautions of IM and subcutaneous injection in infants and children. ⇒ calculate pediatric IM and subcutaneous dosages. ⇒ list the steps in preparing and administering IV medications from a solution bag.	*Dosage Calc 360* *CANVAS*

Date or Week	Activity, Assignment, and/or Topic	Pages/ Due Dates/Tests
	⇒ explain why a flush is included in IV medication administration. ⇒ calculate flow rates for the administration of pediatric IV medications. ⇒ use normal daily and hourly dosage ranges to calculate and assess dosages ordered. ⇒ dosages and flow rates based on kg body weight **<u>WEEK 6 Assignment:</u>** ⇒ Review the study guides and videos for the study guides for Week 5 peds and intake and output and conidiations for special populations ⇒ Review the PowerPoints **for M15 Verifying Safe Dose, M17 Calculating Intake and Output, M18 Special Populations** ⇒ Review and complete the Exercises in Dosage Calc 360 ⇒ Complete the Week 6 exam and discussion on Canvas	
Week 7 May 27	**<u>Student will be learning:</u>** This week students will review for the final exam **<u>Week 6 Objectives:</u>** **By the end of this unit, students will be able to:** ⇒ Take final exam and score at least a 78% per nursing standards	*Dosage Calc 360* *CANVAS*
Week 8 June 3	TBA	*Dosage Calc 360* *CANVAS*
Week 9 June 10	FINAL EXAM	*Dosage Calc 360* *CANVAS*

*****Subject to change without prior notice*****