IMPERIAL VALLEY COLLEGE

Welcome to NUR100 Winter 2024! I am excited and looking forward to meeting you all!

Basic Course Information

Semester:	**Winter 2024**	Instructor Name:	**Cristal Mora (Ramirez)**
Course # and Title:	**Medication Mathematics**	Email:	**cristal.mora@imperial.edu**
CRN #:	**15701**	Webpage (optional):	
Classroom:	**2152**	Office #:	**760-355-6345**
Class Dates:	**January 3, 2024- January 18, 2024**	Office Hours:	**Monday 12:30-1:30pm Tuesday 4:00-5:00pm Wednesday 4:00-5:00pm Thursday 4:00-5:00pm**
Class Days:	**Tuesday, Wednesday, Thursday**	Office Phone #:	**760-355-6348**
Class Times:	2:00-4:00 PM	Emergency Contact:	**760-791-7557**
Units:	1.0	Class Format:	Face to face

Last Day to Add: January 2, 2024; Deadline to drop with "W" January 16, 2024

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.

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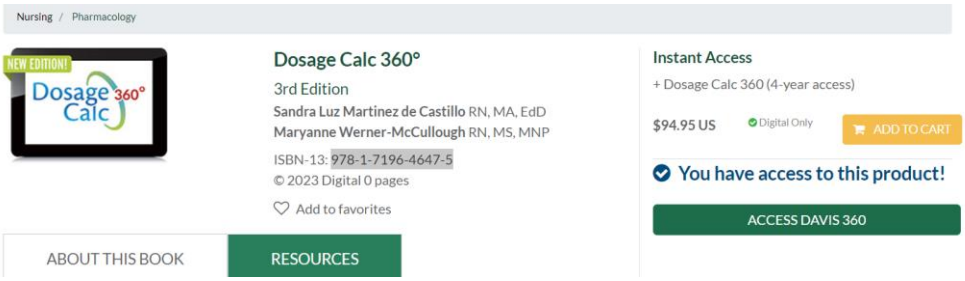
Course requirements, Textbooks & Other Resources or Links

NURS 100 is face to face class. The textbook for this classroom is a digital program called **Dosage Cal 360, 3rd edition.**
ISBN-13: 978-1-7196-4647-5
Click the link to purchase https://www.fadavis.com/product/dosage-calc-360-castillo-online-digital-calculations-3



Once you purchased the program, click on the link Dosage Calc 360 Student Orientation Video to view instructions on how to join the course. The class code for NUR 100 Winter 2025 is **CLASS ID: CE40172BBE**
Here is another link Customer Support Center for additional support instructions. Phone number is 888-323-2847

This is a three-week online course; You will need schedule out modules to complete your assignments in a timely manner. You need to complete Module 1 before Dosage Calc opens Module 2 and so forth.

There are 14 modules to complete.

1)Basis Math, 2) Safety in Medication Administration, 3) Systems of Measurement, 4) Dimensional Analysis, 5) Calculating Oral Medication Doses, 6) Syringes & Needles, 7) Calculating Parental Medication Dosages, 8) Preparing Powered Parental Medications, 9) Administering Insulin, 10) Calculating for IV Medications & Infusions, 11) Administering IV Push Meds, 12) Verifying Safe Dose, 13) Titration of Intravenous Medications, 14) Calculating Intake & Output

During the 2024 Winter session, the course work includes:

- Completing weekly modules and assignments open on Sunday 1200am and are due on Friday @11pm
- The student is expected to log into the class at least 3-4 times per week.
- Tests: Quizzes, and exams will be on paper. Quizzes will be announced by course instructor the day before or unannounced.
  - ⇒ Student must show their work and submit all scratch paper with each quiz and exam
  - ⇒ Students must follow rounding guidelines found in RN handbook if noted indicated in the question
  - ⇒ Calculators will be used at the discretion of course instructor. **Students will receive a ZERO on a quiz exams, or final exam if student uses a calculator of any form without course instructor approval.**

Assignments:

There will be homework assignments from the required Dosage Calc 360 (FA Davis) online site. These are part of your grade. These assignments are outlined in syllabus class schedule. 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)
⇒ Quizzes (10 points each)
⇒ Weekly Exams (25 points each)

⇒ 1 Final Exam (50 points).

Late Assignments

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.

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.

Conduct & Civility

Students are expected to adhere to the accepted standards of Student Conduct and the regulations adopted by the college. Academic misconduct includes, but not limited to cheating in any form, plagiarism, behavior misconduct. Civility is treating others and ourselves with respect, dignity, and care. Civility is evident when we are sensitive to the impact that our communications, practices, and behaviors have on others in our communities. Incivility includes all forms of misconduct, disrespect or disregard for instruction, the instructor, or a fellow student. The American Nurses' Association Code of Ethics requires nurses to treat their colleagues, students and patients with dignity and respect and does not tolerate any form of harassment, disrespect, or threatening action. Nursing students are expected to promote self-accountability for their actions and to foster cultures of civility and a high standard of civil, respectful, and professional conduct in all academic and clinical interactions. 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, and the RN Program Code of Academic and Clinical Conduct

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%

Student must pass the FINAL EXAM to pass the course. The grading for the course uses nursing criteria.

Attendance and Course Policies

The below information is the IVC attendance and course policies:

• A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of a 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 IVC Catalog** for details.

• Regular attendance in all classes is expected of all students. This is intense and short-term course. Students are expected to attend all classes. A student who has an unexcused tardy and is more than 10 minutes late will be marked

absent. Students who are continuous (more than two tardies) will meet with course instructor. **Students who are late for class three times will be considered absent for one day**. Absences are limited to 1 day. A student who reaches the maximum allowable hours of absenteeism or tardiness may be dropped by the instructor. Student whose continuous, unexcused absences exceed the number of hours the class (1 day only) 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.

Electronic Devices: Cell phones and electronic devices must be turned off and put away during class, unless otherwise directed by the instructor.
Food and Drink are prohibited in all classrooms. Water bottles with lids/caps are the only exception. Additional restrictions will apply in labs. Please comply as directed by the course instructor.
Children in the classroom: Due to college rules and state laws, only students enrolled in the class may attend; children are not allowed.
Disruptive Students: Students who disrupt or interfere with a class may be sent out of the room and told to meet with the Campus Disciplinary Officer before returning to continue with coursework. **Disciplinary procedures will be followed as outlined in the IVC Catalog.**

Online Etiquette

• 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:

(1) identify yourself,

(2) include a subject line,

(3) avoid sarcasm,

(4) respect others' opinions and privacy,

(5) acknowledge and return messages promptly,

(6) copy with caution,

(7) do not spam or junk mail,

(8) be concise,

9) use appropriate language,

(10) use appropriate emotion icons (AKA emojis) to help convey meaning, and

(11) use appropriate intensifiers to help convey meaning [do not use ALL CAPS or multiple exclamation marks (!!!!)].

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.

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Anticipated Class Schedule/Calendar

Date or Week	Activity, Assignment, and/or Topic	Pages/ Due Dates/Tests
Week 1 Overview: **January 2- January 4th 2023**	**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. ⇒ How to convert between household measurements to metric system measurements. ⇒ Recognize that drugs dosages are measured in units, milliequivalents, grams, micrograms and milligrams. ⇒ Components of administering medications ⇒ 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. **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 ⇒ 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 Household measures. o Apothecary measures	***Homework Dosage Cal 360: Due Dates*** ***M1 Basic Arithmetic Chapter/Assignment in Dosage Cal 360 due 1/3/24 11pm*** ***M2 Safety in Med Admin.. Chapter/Assignment in Dosage Cal 360 due 1/3/24 11pm*** ***M3 Systems Measurement Chapter/Assignment in Dosage Cal 360 due 1/3/24 11pm*** ***M6 Dimensional Analysis Chapter/Assignment in Dosage Cal 360 due 1/4/24 11pm*** ***M8 Oral Meds Chapter/Assignment in Dosage Cal 360 due 1/4/24 11pm*** ***Canvas Quiz: Complete Safety In Med Admin Quiz found on Canvas due 1/3/24 11pm*** ***Study for Exam#1 Tuesday 1/9/24***

Date or Week	Activity, Assignment, and/or Topic	Pages/ Due Dates/Tests
	⇒ 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 Learn and understand the dimensional analysis method of dosage and drug calculations. **<u>Week 1 Assignment</u>** 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 Module. 6. Read Chapter 1 and participate in the Assignment #1 in 7. Complete the following on CANVAS ⇒ Review the PowerPoints for **Tuesday M1 Basic Arithmetic, M2 Safety in Medication Administration, M3 Systems of Measurement, Wednesday- M6 Dimensional Analysis, M8 Calculating Oral Medication Doses, M9 Syringes and Needles, Thursday- M10 Calculating Parenteral Medication Dosages, M11 Preparing Powdered Parenteral Medications** ⇒ Review the Exercises ⇒ There is a discussion this week. ⇒ Review power points	

Date or Week	Activity, Assignment, and/or Topic	Pages/ Due Dates/Tests
	⇒ Study Guides posted 8. Complete all exercise assignments on **Dosage Calc 360 Online Program for Week 1 M1, M2, M3, M6, M8, M9, M10, M11** 9.Study for Exam #1 Modules 3,6,8 on paper Tuesday 1/9/24	
Week 2 Overview: January 9-Janauary 11, 2024	**Student will be learning:** This week you will learn the following topics. ⇒ Intravenous (IV) solutions, how to calculate IV flow rates using gravity and by using electronic infusion devices. ⇒ Students will learn the importance of calculating pediatric dosages correctly **Week 2 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 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. ⇒ 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.	***Homework Dosage Cal 360 Due Dates*** ***M10 Parental Medications Dosages Chapter/Assignment in Dosage Cal 360 due 1/10/24 11pm*** ***M11 Preparing Powdered Parental Meds Chapter/Assignment in Dosage Cal 360 due 1/10/24 11pm*** ***M13 Calculating for IV Meds & Infusion Chapter/Assignment in Dosage Cal 360 due 1/11/24 11pm*** ***M14 Administering Direct IV Med Chapter/Assignment in Dosage Cal 360 due 1/11/24 11pm*** ***M15 Verifying Safe Dose Chapter/Assignment in Dosage Cal 360 due 1/12/24 11pm*** ***Canvas Quiz*** ***Complete M10 Calculating Parental Medication Quiz found on Canvas due 1/9/24 11pm***

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 **WEEK 2 Assignment:** Read M10 Calculating Parenteral Medication Dosages, M11 Preparing Powdered Parenteral Medications, M12 Administering Insulin, M13, M14 ⇒ Review power points in Week 2 ⇒ Study Guides posted in Week 2 ⇒ Complete Assignment Week 2 ⇒ **Review and complete the exercises in Dosage Calculation 360 -M10 Calculating Parenteral Medication Dosages, M11 Preparing Powdered Parenteral Medications, M12 Administering Insulin, M13, M14** Study for Exam #2 Modules-9,10,11,13,14,15 on Tuesday 1/16/24	***Complete Verifying Safe Dose Quiz found on Canvas due 1/12/24 11pm*** ***Study for Exam#2 Tuesday 1/16/24***
Week 3 Overview: January 16-January 18, 2024	**Student will be learning:** This week you will be learning. ⇒ Calculate dosages in pediatric and geriatric populations and calculating intake & output. ⇒ This week students will review for the final exam **Week 3 Objectives:** **By the end of this unit, students will be able to:** ⇒ Calculate pediatric and geriatric dosages. ⇒ Calculate intake and output ⇒ Calculate drips and intravenous infusions ⇒ Verify safe dosages and calculate dose ranges. ⇒ Take final exam and score at least a 78% per nursing standards ⇒ **WEEK 3 Assignment:** ⇒ Review the study guides and videos for the study guides for Week 5 peds and intake and output and conidiations for special populations	***Homework Dosage Cal 360 Due Dates*** ***M16 Titration Chapter/Assignment in Dosage Cal 360 due 1/16/24 11pm*** ***M17 Calculating Intake & Output Chapter/Assignment in Dosage Cal 360 due 1/16/24 11pm*** ***Canvas Quiz*** ***Complete M17 Calculating Intake & Output quiz found on Canvas due 1/17/24 11pm***

IMPERIAL VALLEY COLLEGE

Date or Week	Activity, Assignment, and/or Topic	Pages/ Due Dates/Tests
	⇒ Review the PowerPoints **for M15 Verifying Safe Dose, M17 Calculating Intake and Output** ⇒ Review the Exercises in Dosage Calc 360 for **M15 Verifying Safe Dose, M17 Calculating Intake and Output** ⇒ **Complete the study guide for final exam due 1/17/24** ⇒ **Complete final exam 1/18/24**	**Complete the study guide for comprehensive final exam due Wednesday 1/17/24** **Final exam Thursday 1/18/24 at 2pm on paper** **Sending you all good vibes. Do your best**!

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