

### Basic Course Information

Semester:	<b>Fall 2017</b>	Instructor Name:	<b>Terrie Sullivan, RN, MSN/Ed., PHN</b>
Course Title & #:	<b>Nursing 100</b>	Email:	<b>terrie.sullivan@imperial.edu</b>
CRN #:	<b>11130</b>	Webpage (optional):	
Classroom:	<b>online</b>	Office #:	<b>2130</b>
Class Dates:	<b>10/9 - 12/8/2017</b>	Office Hours:	<b>T:1030-1230, W:1030-1130 and by appointment online in the chat room Monday- Thursday 7-8pm</b>
Class Days:	<b>online</b>	Office Phone #:	<b>760-355-6425</b>
Class Times:	online	Emergency Contact:	<b>760-355-6348</b>
Units:	1.0		

### 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 NURS100, the student is required to apply mathematical principles to the calculation of drug dosages. This includes addition, subtraction, multiplication & 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.

### Student Learning Outcomes

#### 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.

### Course Objectives

#### 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.

### Unit Outcome Competencies:

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

### Textbooks & Other Resources or Links

#### **REQUIRED**

1. **Calculating Dosages Online - (2 Year Access) by Sandra Luz Martinez de Castillo, RN, MA, EdD Copyright © 2014 F.A. Davis Company. ISBN- 978-0-8036-4413-7**

**Dosage Calc online** This is the actual site that you will do your assignments. The module tests are the actual assignments and you will have a separate test within blackboard

### Course Requirements and Instructional Methods

#### Classroom work:

The student is expected to bring required materials to class. This includes the required study guides to be worked on during class time.

#### Tests:

There will be exams covering the topics reviewed in class. They may consist of in class exams and/or exams taken in Canvas.

**THERE ARE NO MAKE-UP EXAMS REGARDLESS OF EXCUSE.**

#### Assignments:

There will be homework assignments from the required Dosage Calculations online site and ATI Testing website. The results of the assignments will be printed out and turned into the instructor by the date that they are due. These assignments will be outlines in blackboard. The assignments will cover the topics discussed in class. **NO LATE WORK WILL 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.

### Course Grading Based on Course Objectives

This is a nursing course therefore the grading is per the nursing department grading scales. Students must maintain a "C" average grade as determined by the scale below:

A = 92-100%

- B = 83-91%
- C = 75-82%
- D = 68-74%
- F = Below 68%

Grades will not be “rounded”.

### 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.
- Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as ‘excused’ absences.

### Classroom Etiquette

- 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 instructor.
- 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 [General Catalog](#).
- Children in the classroom: Due to college rules and state laws, no one who is not enrolled in the class may attend, including children.

### 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: (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 emoticons (emotional icons) to help convey meaning, and (11) use appropriate intensifiers to help convey meaning [do not use ALL CAPS or multiple exclamation marks (!!!!)].

## 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 as one's own the 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.

## Additional Student Services

Imperial Valley College offers various services in support of student success. The following are some of the services available for students. Please speak to your instructor about additional services which may be available.

- **CANVAS LMS.** Canvas is Imperial Valley College's main Learning Management System. To log onto Canvas, use this link: [Canvas Student Login](#). The [Canvas Student Guides Site](#) provides a variety of support available to students 24 hours per day. Additionally, a 24/7 Canvas Support Hotline is available for students to use: 877-893-9853.
- **Learning Services.** There are several learning labs on campus to assist students through the use of computers and tutors. Please consult your [Campus Map](#) for the [Math Lab](#); [Reading, Writing & Language Labs](#); and the [Study Skills Center](#).
- **Library Services.** There is more to our library than just books. You have access to tutors in the [Study Skills Center](#), study rooms for small groups, and online access to a wealth of resources.

## Disabled Student Programs and Services (DSPS)

Any student with a documented disability who may need educational accommodations should notify the instructor or the [Disabled Student Programs and Services](#) (DSP&S) office as soon as possible. The DSP&S

office is located in Building 2100, telephone 760-355-6313. Please contact them if you feel you need to be evaluated for educational accommodations.

### **Student Counseling and Health Services**

Students have counseling and health services available, provided by the pre-paid Student Health Fee.

- **Student Health Center.** A Student Health Nurse is available on campus. In addition, Pioneers Memorial Healthcare District provide basic health services for students, such as first aid and care for minor illnesses. Contact the IVC [Student Health Center](#) at 760-355-6128 in Room 1536 for more information.
- **Mental Health Counseling Services.** Short-term individual, couples, family and group counseling services are available for currently enrolled students. Services are provided in a confidential, supportive, and culturally sensitive environment. Please contact the IVC Mental Health Counseling Services at 760-355-6310 or in the building 1536 for appointments or more information..

### **Veteran's Center**

The mission of the [IVC Military and Veteran Success Center](#) is to provide a holistic approach to serving military/veteran students on three key areas: 1) Academics, 2) Health and Wellness, and 3) Camaraderie; to serve as a central hub that connects military/veteran students, as well as their families, to campus and community resources. Their goal is to ensure a seamless transition from military to civilian life. The Center is located in Building 600 (Office 624), telephone 760-355-6141.

### **Extended Opportunity Program and Services (EOPS)**

The Extended Opportunity Program and Services (EOPS) offers services such as priority registration, personal/academic counseling, tutoring, book vouchers, and community referrals to qualifying low-income students. EOPS is composed of a group of professionals ready to assist you with the resolution of both academic and personal issues. Our staff is set up to understand the problems of our culturally diverse population and strives to meet student needs that are as diverse as our student population.

Also under the umbrella of EOPS our CARE (Cooperative Agency Resources for Education) Program for single parents is specifically designed to provide support services and assist with the resolution of issues that are particular to this population. Students that are single parents receiving TANF/Cash Aid assistance may qualify for our CARE program, for additional information on CARE please contact Lourdes Mercado, 760-355- 6448, [lourdes.mercado@imperial.edu](mailto:lourdes.mercado@imperial.edu).

EOPS provides additional support and services that may identify with one of the following experiences:

- Current and former foster youth students that were in the foster care system at any point in their lives
- Students experiencing homelessness
- Formerly incarcerated students

To apply for EOPS and for additional information on EOPS services, please contact Alexis Ayala, 760-355-5713, [alexis.ayala@imperial.edu](mailto:alexis.ayala@imperial.edu).

## Student Equity Program

- The Student Equity Program strives to improve Imperial Valley College’s success outcomes, particularly for students who have been historically underrepresented and underserved. The college identifies strategies to monitor and address equity issues, making efforts to mitigate any disproportionate impact on student success and achievement. Our institutional data provides insight surrounding student populations who historically, are not fully represented. Student Equity addresses disparities and/or disproportionate impact in student success across disaggregated student equity groups including gender, ethnicity, disability status, financial need, Veterans, foster youth, homelessness, and formerly incarcerated students. The Student Equity Program provides direct supportive services to empower students experiencing insecurities related to food, housing, transportation, textbooks, and shower access. We recognize that students who struggle meeting their basic needs are also at an academic and economic disadvantage, creating barriers to academic success and wellness. We strive to remove barriers that affect IVC students’ access to education, degree and certificate completion, successful completion of developmental math and English courses, and the ability to transfer to a university. Contact: 760.355.5736 or 760.355.5733 Building 100.
- The Student Equity Program also houses IVC’s Homeless Liaison, who provides direct services, campus, and community referrals to students experiencing homelessness as defined by the McKinney-Vento Act. Contact: 760.355.5736 Building 100.

## Student Rights and Responsibilities

Students have the right to experience a positive learning environment and to due process of law. For more information regarding student rights and responsibilities, please refer to the IVC [General Catalog](#).

## Information Literacy

Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. The IVC [Library Department](#) provides numerous [Information Literacy Tutorials](#) to assist students in this endeavor.

## Anticipated Class Schedule/Calendar

**\*\*\*Tentative, subject to change without prior notice\*\*\***

**Week 1 - Welcome and Introductions (Week 1)**

**Week 1 Overview:** Students will be introduced to the online course environment and 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:

<ul style="list-style-type: none"> <li>❖ Interpret the course syllabus</li> <li>❖ Navigate the Blackboard learning environment.</li> <li>❖ Understand the College's add and drop policies, procedures and online learning requirements.</li> <li>❖ Know more about your fellow online classmates</li> <li>❖ Learn and understand the dimensional analysis method of dosage and drug calculations</li> </ul>		
<p>Week 1 Assignments</p>	<p>Introduction to Blackboard and online learning Introduction to Dimensional Analysis</p>	<p>All assignments and Exams Due Sunday at 1130pm</p>
	<p>Purchase the textbook: <b>REQUIRED</b> <b>Calculating Dosages Online - (2 Year Access)</b> <b>by Sandra Luz Martinez de Castillo, RN, MA,</b> <b>EdD Copyright © 2014 F.A. Davis Company.</b> <b>ISBN- 978-0-8036-4413-7</b></p> <p><b><u>Dosage Calc online</u></b> This is the actual site that you will do your assignments. The module tests are the actual assignments and you will have a separate test within blackboard.</p> <p><b>Dosage Calculations tutorials on</b> <b><a href="https://www.atitesting.com/home.aspx">https://www.atitesting.com/home.aspx</a></b></p> <p><b>RECOMMENDED</b> <b>Dimensional Analysis for Meds, 4th Edition Anna M. Curren, MA, RN Copyright© 2010 Delmar Cengage Learning or any Dimensional analysis dosage calculation book. (Has to be Dimensional Analysis method)</b></p> <p>Read &amp; Understand the Syllabus (Click Syllabus on the left) Read &amp; Understand the Course Policies Read &amp; Understand Week 1 Module.</p> <p>Participate in the Assignment #1 Basic Math Exam from CD Complete Course Policies/Syllabus quiz</p>	

**Week 2**

**Week 2 Overview:** This week students will be learning how to convert between using household measurements to metric system measurements. Students will learn how to read a medication label and recognize that drugs dosages are measured in units, milliequivalents, grams, micrograms and milligrams

**Week 2 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:
  - ❖ Measured in units.
  - ❖ Measured as percentages.
  - ❖ Using ratio strengths.
  - ❖ Measured in milliequivalents.
  - ❖ In household measures.
  - ❖ In the apothecary measures

WEEK 2	System Conversions	Sunday at 1130pm
	Complete Study Guides System conversions Review power points in Week 2 Assignment: Study Guide and complete them Complete the Assignment Week 2 in the Weekly section	

### Week 3

**Week 3 Overview:** This week discusses the 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 unit, students will be able to:

- ❖ Identify scored tablets, unscored tablets, and capsules.
- ❖ Read drug labels to identify trade and generic names.
- ❖ Locate dosage strengths and calculate average dosages.
- ❖ Measure parenteral solutions using:
  - a standard 3 mL syringe.
  - a tuberculin syringe
  - 5 and 10 mL syringes.
  - 20 mL syringe.

WEEK 3		Sunday at 1130pm
	Assignment: Complete Study Guides Dosage Calculations Review power points in Week 3 Review ATI tutorials Safe dosages & Medication Administration	

	Complete the Assignment Week 3 in the Weekly section  Complete Quiz 2 System Conversions and Dosage Calculations	
--	--	--

### Week 4

**Week 4 Overview:** This week students will learn how to prepare medications using powder forms of drugs and how to calculate the appropriate amounts from the problems listed in the study guides.

**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.
- ❖ calculate average parenteral dosages from the labels provided.

WEEK 4		Sunday at 1130pm
	Review ATI tutorials Oral Medications, Injectable Medications & Powdered Medications  Review power points in Week 4  Study Guides posted in Week 4  Complete Assignment Week 4  Complete Quiz 3 Dimensional Analysis: Oral, Parenteral Dosages	

### Week 5

**Week 5 Overview:** 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 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.
- ❖ hourly dosage infusing from mL/hr rate.

WEEK 5		Sunday at 1130pm
	Review ATI tutorials Parenteral (IV) Medications Review power points in Week 5 Study Guides posted in Week 5 Complete Assignment Week 5 Complete Exam 4: IV's Primary, Piggy, Specialty, Blood. (Gtts/min & ml/hr)	

### Week 6

**Module 6 Overview:** This week students will learn the importance of calculating pediatric and critical care dosages correctly.

**Module 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.
- ❖ list the steps in preparing and administering IV medications using a calibrated burette.
- ❖ 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 6	ATI tutorials Dosages by Weight, Pediatric Medications & Critical Care Medications  Study Guides Week 6 in Blackboard	Sunday at 1130pm

**Week 7**

**Module 7 Overview:** This week the student will complete a critical care and pediatric dosage calculation exam

**Module 7 Objectives:** By the end of this unit, students will be able to:

- Correctly compute pediatric and critical care conversions
- Review for final exam

WEEK 7	Review all weeks for final exam  Review ATI Tutorials Case ‘studies and final tests  Complete Exam 5: Critical Care Calculations.  Pediatric Problems	Sunday at 1130pm
--------	---	------------------

**\*\*Week 8 : Finals week. Final Exam\*\***

