Basic Course Information *SUBJECT TO CHANGE*

Semester	**Summer 2016**	Instructor's Name	**Daniel G. Ortiz, Jr.**
Course Title & #	**NURS100: Medication Math**	Instructor's Email	**daniel.ortiz@imperial.edu**
CRN #	**30005**		
Room	**2139**	Instructor's Office	2126
Class Dates	**6/20/16- 6/30/16**	Instructor's Office Hours	M-Th: 07:45am-09:50am
Class Days	**Monday** **Tuesday** **Wednesday** **Thursday**	Office Phone #	(760) 355-6493 (760) 355-6348 (Nursing Office)
Class Times Units	**0745-0950am** **1.0 unit**	Who students should contact if emergency or other absence	M-Th: Leave message on office phone or Nursing Office Secretary

Course Description

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

Purchase access to: www.DosageCalc.com

The on-line modules provide all materials found in the recommended book, Calculating Drug Dosages. All testing minus the final will be completed on this site.

Dosage Calculations tutorials on https://www.atitesting.com/home.aspx

RECOMMENDED

CD/Book: Calculating Drug Dosages: An Interactive Approach to Learning Nursing Math, 3rd Edition by **Sandra Luz Martinez de Castillo**, RN, MA, EdD Copyright © 2012 **F.A. Davis Company**

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

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 will consist of in class exams and/or exams taken on Dosagecalc.com. **Note, All on-line content is time stamped Eastern Standard Time and as such, must be submitted accordingly.**

THERE ARE NO MAKE-UP EXAMS REGARDLESS OF EXCUSE.

Out of Class Assignments:

There will be homework assignments from the required websites (dosgagecalc.com and ATI Testing website). The results of the assignments will be e-mailed and or printed out and turned into the instructor by the date that they are due. This assignments will be outlines in blackboard. The assignments will cover the topics discussed in class. **NO LATE WORK WILL BE ACCEPTED**.

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.

Course Grading Based on Course Objectives

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

According to the Imperial Valley College catalog: Regular attendance in all classes is expected of all students enrolled. Instructors are expected to take a student's record into account in computing grades. A student may be excluded from further attendance in a class during any semester when absences after the close of registration have exceeded the number of class hours that the class meets per week. Further, an instructor may drop any student judged to be a disturbing element in the class.

However, the attendance policy of the nursing program is further implemented as follows:
Absences will be limited to two (2) hours or 1 class session for the course.

It is the responsibility of each student to attend all classroom and to contact the faculty person before the start of class of any need to be excused from class. A student who reaches the maximum allowable hours of absenteeism or tardiness may be dropped by the instructor.

Acceptance of absenteeism excuses is at the discretion of the faculty member and may result in failure of the class.

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

- The appropriate method of instruction will be determined by each instructor and may include, but not be limited to the following: classroom lecture, small group discussions, student presentations, demonstration, simulations, CD or online assisted instruction, audiovisuals, textbooks, handouts, and required reading and assignments.
- During all classroom time, every person will be respected within the group and it is expected that all interactions between students, faculty, and other staff will take place professionally and courteously.

- Electronic Devices:Cell phones and electronic devices must be turned off and put away during class unless otherwise directed by the instructor. **You will need to have a basic calculator for class.**
- 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.
- 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.

Academic Honesty

- Plagiarism is to take and present 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 correctly 'cite a source', 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, or assisting others in using materials, which are prohibited or inappropriate in the context of the academic assignment in question.

  Anyone caught cheating or 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 School 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) use of a commercial term paper service

Additional Help – Discretionary Section and Language

- Blackboard support center: http://bbcrm.edusupportcenter.com/ics/support/default.asp?deptID=8543
- Learning Labs:There are several 'labs' on campus to assist you through the use of computers, tutors, or a combination. Please consult your college map for the Math Lab, Reading & Writing Lab, and Learning Services (library). Please speak to the instructor about labs unique to your specific program
- Library Services:There is more to our library than just books. You have access to tutors in the learning center, study rooms for small groups, and online access to a wealth of resources.
- Nursing Learning Center (NLC): Please utilize the nursing learning center tutors for assistance with medication math related studies. NOTE: NLC is not open year-round, please contact the nursing office for hours of availability.

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. If you feel you need to be evaluated for educational accommodations, the DSP&S office is located in Building 2100, telephone 760-355-6313.

Student Counseling and Health Services

Required Language: Students have counseling and health services available, provided by the pre-paid StudentHealth Fee.We now also have a fulltime mental health counselor. For information seehttp://www.imperial.edu/students/student-health-center/. The IVC Student Health Center islocated in the Health Science building in Room 2109, telephone 760-355-6310.

Student Rights and Responsibilities

Required Language: Students have the right to experience a positive learning environment and dueprocess. For further information regarding student rights and responsibilities please refer to theIVC General Catalog available online at http://www.imperial.edu/index.php?option=com_docman&task=doc_download&gid=4516&Itemid=762

Information Literacy

Required Language: Imperial Valley College is dedicated to help students skillfully discover, evaluate, and use information from all sources. Students can access tutorials at http://www.imperial.edu/courses-and-programs/divisions/arts-and-letters/library-department/info-lit-tutorials/

Anticipated Class Schedule / Calendar

Date	Day	Description	Assignment Due
Week 1 6/20/16	Mon	**Orientation | Basic Math Review** Fractions Introduction to Fractions Lowest Common Denominator Addition of Fractions Subtraction of Fractions Multiplication of Fractions Division of Fractions Decimals Working with Decimals Addition of Decimals Subtraction of Decimals Multiplication of Decimals Division of Decimals Rounding of Decimals Roman Numerals Roman Numerals Adding Roman Numerals Subtracting Roman Numerals **Methods of Calculation** Ratio and Proportion Introduction to Ratio and Proportion Linear Ratio and Proportion Fractional Ratio and Proportion Dimensional Analysis Introduction to Dimensional Analysis Dimensional Analysis Problems	CD-Rom**Calculating Drug Dosages: An Interactive Approach to Learning Nursing Math, 3rd Edition** by **Sandra Luz Martinez de Castillo** Alternate Reading: Current Ch1-3 Enroll at dosagecalc.com- THIS IS REQUIRED Class ID 1D6167F5D3 **ASSIGNMENT:** **Complete Review Module: Basic Math Review, Methods of Calculation, [Initial practice then grade]** **Complete Review Test** [All Review Tests must be submitted to the on-line grade, module tests will be graded on first attempt then will be practice].

		Formula Method Formula Method Formula Method Problems	
Week 1 6/21/16	Tue	**Systems of Measurement** The Metric System Introduction to the Metric System Metric Notations Metric Conversions The Household System The Household System Household Conversions Conversions Introduction to Conversions Conversion Between Systems Conversion Problems 4. Apothecaries' System 5. Household System 6. Dimensional Analysis and conversions between systems 7. Temperature Conversion Formulas 8. Military Time **Intake and Output** Intake and Output Oral Intake Measuring Output Parenteral Intake Parenteral Intake Complex Parenteral Intake Tube Feedings Introduction to Tube Feedings Calculating Tube Feedings	**Complete Review Module:** System of Measurements, Intake & Output, [Initial practice then grade] **Complete Review Test** [All Review Tests must be submitted to the on-line grade, module tests will be graded on first attempt then will be practice].
Week 1 6/22/16	Wed	**Reading Medication Labels** Reading Labels Components of a Medication Label The Dosage Strength and Units of Measurement **Administration of Oral Medications** Introduction to Oral Drugs Administration of Oral Drugs Interpreting Oral Medication Orders Calculations of Oral Drugs The Medication Order Oral Drug Dosage Calculation Problems	**Complete Review Module:** Reading Medication Labels, Administration of Oral Medications, [Initial practice then grade] **Complete Review Test** [All Review Tests must be submitted to the on-line grade, module tests will be graded on first attempt then will be practice].

Week 1 6-23-16	Thur	**Syringes and Needles** Syringes Introduction to Syringes Types of Syringes ***Test will be practice then Grade*** Needles Introduction to Needles Needles and Syringes	**Complete Review Module:** Reading Medication Labels, Administration of Oral Medications, [Initial practice then grade] **Complete Review Test** [All Review Tests must be submitted to the on-line grade, module tests will be graded on first attempt then will be practice].
Week 2 6/27/16	Mon	**Administration of Parenteral Medications** Parenteral Drugs Administration of Parenteral Drugs The Parenteral Drug Order Calculating Parenteral Drug Dosages **Reconstitution of Powdered Medications** Simple Reconstitution Introduction to Reconstitution Single-Strength Reconstitution Complex Reconstitution Multiple-Strength Reconstitution Solving Reconstitution Problems	**Complete Review Module:** Administration of Parenteral Medications, Reconstitution of Powdered Medications, [Initial practice then grade] **Complete Review Test** [All Review Tests must be submitted to the on-line grade, module tests will be graded on first attempt then will be practice].
Week 2 6/28/16 **LAST DAY TO DROP WITH "W"**	Tue	**IV Calculations** IV Calculations Introduction to IV Calculations IV Infusion Rates Direct IV Medication Administration Labeling IV Bags Infusion Time Completion Time Labeling IV Bags **Pediatric Calculations** Pediatric Calculations Children and Medications Giving Medications to Children Determining Safe Dose Dosage Based on Body Weight Dosage Based on BSA NG Fluid Replacement NG Fluid Replacement Fluid Replacement Problems	**Complete Review Module:** IV Calculations, Pediatric Calculations, [Initial practice then grade] **Complete Review Test** [All Review Tests must be submitted to the on-line grade, module tests will be graded on first attempt then will be practice].
Week 2 6/29/16	Wed	**Titration of IV Medications** Introduction to Titration About Titration	**Complete Review Module:** Titration of IV Medications, Practice Tests: Developing Competency in Drug Dosage Calculations Sections

		Information Needed for Titration Problems Solving Titration Problems Solving Common Titration Problems Advanced Titration Problems **Developing Competency in Drug Dosage Calculations** Competency Tests Section 1 Competency Tests Section 2 Competency Tests Section 3 Competency Tests Section 4	1-4, [Initial practice then grade] **Complete Review Test** [All Review Tests must be submitted to the on-line grade, module tests will be graded on first attempt then will be practice]. Review for Final Exam
6/30/16	Thur	**FINAL EXAMINATION**	