

### Basic Course Information

Semester:	<b>Spring 2020</b>	Instructor Name:	<b>Rebecca Agundez RN BSN</b>
Course Title & #:	<b>Medication Math and Pharmacology for Health Occupations – MA 81</b>	Email:	<b>Rebecca.agundez@imperial.edu</b>
CRN #:	<b>21542</b>	Webpage (optional):	
Classroom:	<b>2139</b>	Office #:	<b>2130</b>
Class Dates:	<b>02/18/2020 – 04/10/2020</b>	Office Hours:	<b>Mon &amp; Wed 2:00 – 3:30 and Tue &amp; Thurs 4:00 – 6:30 pm</b>
Class Days:	<b>Tue, Thurs, Fri</b>	Office Phone #:	<b>760-355-6176</b>
Class Times:	6:30 – 8:35 pm and 0700 – 1:30 pm	Emergency Contact:	<b>Beatriz Trillas-Martinez Staff Support Technician 760-355-6468</b>
Units:	3		

### Course Description

This course focuses on those components of safe medication calculation and administration and provides an introduction to the principles of pharmacology including medication interactions and potential adverse medication reactions. The course presents the principles and the guidelines for reading and interpreting a medical prescription. The course content also stresses medication calculation, measuring and administration of drugs; both orally and parenterally most commonly administered in the medical office. (Nontransferable, AA/AS degree only)

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

Pre-requisite MA 77 and BIO 90 (or higher-level Anatomy and Physiology class) with a grade of “C” or better

Co-requisite MA 83

### Student Learning Outcomes

*Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:*

1. Demonstrate the legal and ethical knowledge related to medication administration in the medical office. (ILO 2.)
2. Demonstrate appropriate administration of medication by 3 separate routes. (ILO 2., ILO 3)
3. Identify warning signs of a pending allergic or anaphylactic response. (ILO 2, ILO 3)

### Course Objectives

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

1. Demonstrate knowledge of basic math computations (II.C.1)
2. Apply mathematical computations to solve equations (II.C.2)
3. Define basic units of measurement in; a. the metric systems; and b. the household system. (II.C.3)
4. Convert among measurement systems (II.C.4)
5. Identify abbreviations and symbols used in calculating medical dosages (II.C.5)
6. Calculate proper dosages of medication for administration (II.P.1)
7. Analyze healthcare results as reported in: a. graphs; and b. tables.( II.A.1)
8. Identify the classifications of medications including: a. indications for use; b. desired effects; c. side effects; and d. adverse reactions (I.C.11)
9. Discuss the “five rights” of patients relative to administration of medications. (II.C.11) (I.P.4)
10. Understand the legal and ethical implications, with historical and current drug regulations, substance abuse and psychosocial, gender and cultural influences to medication utilization and administration.
11. Discuss DEA guidelines.
12. Demonstrate proper sites and technique for administering parenteral (excluding IV) medication. (I.P.5,7)
13. Demonstrate proper technique for administration of oral medication. (I.P.6)
14. Apply principles of pharmacotherapy in the dimensions of the pediatric, geriatric, pregnancy and lactating patient.
15. Discuss the need for patient education.
16. Discuss implications and concepts of safety with performing medication administration.
17. Demonstrate knowledge of warning signs of allergic response to anaphylactic reactions.
18. Process pharmacy calls for new and refill prescriptions based on physician orders and/or prescription.

### Textbooks & Other Resources or Links

Rice, Jane 2016. *Principles of Pharmacology for Medical Assisting* 6<sup>th</sup> Ed. Cengage Learning ISBN: 9781305859326.

Bonewit-West, Kathy 2016. *Today's Medical Assistant Clinical and Administrative Procedures-* 3<sup>rd</sup> Ed. Elsevier. ISBN 978-0-323-31127-4

### Course Requirements and Instructional Methods

Class Activity, individually and in groups (group presentations)

Mid-Term/Final Exam(s)

Oral Assignments

Problem Solving Exercise

Quizzes

Skill Demonstration

Written Assignments

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

**Total points possible for the class: 100 points**

Pharmacology Midterm – **20 points**

Pharmacology Final – **30 points**

Medication Math Final – **30 points**

Team Presentations of effects of Medications of body systems – **10 points**

Response on DEA regulations and controlled substances – **5 points**

76 Flashcards on drug presentations, classifications and other vocabulary – **5 points**

Grading Criteria: Letter grade only

A= 90 – 100points

B= 80 – 89 points

C= 70 – 79 points

- *Students must pass the Medication Math Final and the Pharmacology final with a minimum of 70% (21 points out of 30) in order to pass the class.*
- *There are no make ups for missed exams*

### 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.
- As soon as you are aware that you will be late or absent, you need to contact the instructor by email or phone (760-355-6176 or 760-960-1165) and leave a message with your name, date and that you will be late or absent.
- Regular attendance in all classes is expected of all students. A student whose continuous absences exceed the number of hours the class is scheduled to meet per week (**10.5 hours for MA 81**) will lose points on final exam; after 3<sup>rd</sup> absence, the student 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. Students will not be allowed to have cell phones or smart watches on their person during testing.
- Recorders will not be allowed in the classroom due to HIPAA laws.

- 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, **such as students who come in late, leave and enter the class several times or are repeatedly talking during lecture** 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, only students enrolled in the class may attend; children are not allowed.

### 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. **You are responsible for turning in the Faculty Notification of Accommodation Sheet to your Instructor.**

### 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

Date or Week	Activity, Assignment, and/or Topic	Course Objective or SLO
Week 1 February 18 - 21	*Syllabus & Introduction to class * <b>Med Math</b> Quiz # 1 – Decimals, Fractions, Rounding and Roman Numerals * <b>Pharmacology</b> : Rice Unit 7 (pg. 76 – 80) Controlled Substance Schedules, DEA regulations, Drug Diversion *Rice Unit 10 (pg. 117 – 121 and 125) Patient Safety, 6 “rights” of Medication Administration, avoiding med errors *Bonewit Chap. 3 (pg. 52) Controlled Substances and Prescriptions *Bonewit Chap. 4 (pg. 64 – 68) Barriers to good patient communication *Infection Control and Healthcare Associated Infections (power point) <b>In computer lab:</b> *Selected Reportable diseases and Vaccine Preventable diseases (group presentation) *Write a 1-page response to prompt regarding legal and ethical knowledge related to medication administration in the medical office – DEA regulations and Controlled Substances (worth 5 points).	CO 1, 9, 10, 11 and 16 SLO 1
Week 2 February 24 - 28 NO CLASS FEB 28th	* <b>Med Math</b> Quiz # 2 – Conversions, Abbreviations and Dimensional Analysis * <b>Pharmacology</b> : Rice Unit 8 (pg. 89 -91 and 96, 97) Forms of Drugs, basic stages of a drug’s life in body	CO 3, 4, 5

Date or Week	Activity, Assignment, and/or Topic	Course Objective or SLO
	Four conditions to look for (Hypochondriasis, Malingering, Drug-seeking behavior, Factitious disorder by proxy) *76 Drug Cards due (worth 5 points)	
Week 3 March 2 – 6 <b>PARKING PASS REQUIRED</b>	* <b>Med Math Quiz # 3</b> – Reading medication labels * <b>Pharmacology:</b> Rice unit 9 Medication order, parts of a prescription, patient education, medication label, abbreviations to avoid *Jeopardy (teams) with words from flashcards	CO 5, 13, 15, 16
Week 4 March 9 - 13	* <b>Med Math Quiz # 4</b> – Administration of parenteral medications and selecting correct syringe and needle * <b>Pharmacology Midterm</b> (Worth 20 points)	CO 6, 18
Week 5 March 16 – 20 3/20 – Deadline to turn in presentation outline notes to Instructor	* <b>Med Math</b> Calculating safe dose for pediatrics using weight * <b>Pharmacology</b> Rice Unit 14 – Allergic and Anaphylactic reaction *Process pharmacy calls for new and refill prescriptions based on physician order * Jeopardy (teams) with words from flashcards	CO 14, 17, 18 SLO 3
Week 6 March 23 – 27 Deadline to drop with a “W”	* <b>Med Math Quiz # 5</b> – Pediatric calculations * <b>Pharmacology</b> Rice Unit 15 and 16: Antibiotics, Antifungals, Antivirals *Group presentations (Teams 1, 2 and 3)	CO 8, 10
Week 7 March 30 – April 3	* <b>Med Math</b> Review for final * <b>Pharmacology</b> Rice Unit 23 – Cardiovascular disease and medications Rice Unit 24 – Respiratory disease and medications (TB) Rice Unit 26 – Endocrine disease and medications *Group presentations (Teams 4 and 5 on Thurs, Teams 6, 7 and 8 on Friday)	CO 8
Week 8 April 6 - 10	<b>Med Math Final</b> (Tue, Worth 30 points) <b>Pharmacology Final</b> (Thurs, worth 30 points) <b>Final Medication check off's for 14 students (Fri)</b>	CO 2, 6, 12, 13 SLO 2

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