

**MA 65 Course Outline as of Spring 2012****CATALOG INFORMATION**

Dept and Nbr: MA 65

Title: PHARM &amp; ADM OF MEDS

Full Title: Pharmacology &amp; Administration of Medications

Last Reviewed: 9/16/2002

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	2.00	17.5	Lecture Scheduled	35.00
Minimum	3.00	Lab Scheduled	3.00	17.5	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	5.00		Contact Total	87.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 70.00

Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable

Grading: Grade Only

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

**Catalog Description:**

Principles, preparation & administration of medications by oral, intradermal, subcutaneous, and intramuscular routes. Basic math review for dosage calculations. Lab includes return demonstration by students. Drugs are identified by clinical use, mechanism of action, side effects, & adverse reactions.

**Prerequisites/Corequisites:**

Completion of HLC 60, ANAT 58, and MA 61 (or MSR 61)

**Recommended Preparation:**

Eligibility for ENGL 100 or ESL 100 &amp; MA 60 or 6 months experience in a medical office.

**Limits on Enrollment:****Schedule of Classes Information:**

Description: Principles, preparation, & administration of medications for oral, intradermal, subcutaneous, & intramuscular routes. Lab includes return demonstration by students. Basic math review for dosage calculations. Identification of drugs by clinical use, action, side effects, & adverse reactions. (Grade Only)

Prerequisites/Corequisites: Completion of HLC 60, ANAT 58, and MA 61 (or MSR 61)

Recommended: Eligibility for ENGL 100 or ESL 100 & MA 60 or 6 months experience in a medical office.

Limits on Enrollment:

Transfer Credit:

Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	<b>Effective:</b>	<b>Inactive:</b>
<b>CSU GE:</b>	<b>Transfer Area</b>	<b>Effective:</b>	<b>Inactive:</b>
<b>IGETC:</b>	<b>Transfer Area</b>	<b>Effective:</b>	<b>Inactive:</b>
<b>CSU Transfer:</b>		<b>Effective:</b>	<b>Inactive:</b>
<b>UC Transfer:</b>		<b>Effective:</b>	<b>Inactive:</b>

**CID:**

**Certificate/Major Applicable:**

Certificate Applicable Course

## **COURSE CONTENT**

### **Outcomes and Objectives:**

At the completion of this course, the student will be able to:

Mathematics of Dosage:

1. Demonstrate accurately the addition, subtraction, multiplication, & division of fractions and mixed numbers.
  - a. Add, subtract, multiply, and divide decimals.
  - b. Convert decimals to fractions, and fractions to decimals.
2. Convert percents to decimals, fractions to percents, percents to fractions, & decimals to percents.
3. Convert temperature from Fahrenheit to Centigrade & vice versa.
4. Convert between metric, apothecary, & household systems of measurement.
5. Calculate dosages for infants & children.
6. Calculate dosage of drugs standardized in units.

Basic Pharmacology:

1. State the principles of drug administration.
2. Write common abbreviations related to route of administration and frequency of dosage.
3. Compare and contrast, functions, & sources of vitamins & minerals in the body.
4. Describe symptoms of specific vitamin and mineral deficiencies.
5. Categorize drugs according to clinical use.
6. Recognize side effects and adverse reactions to specified drugs.
7. Recognize the risk factors for drug & alcohol abuse.
8. Discuss drug addiction and its symptoms / withdrawal symptoms.

Administration of Medication:

1. Identify history of drug legislation and standards.

2. Put into a list the factors influencing dosage.
3. Describe the different parts of a prescription.
4. Describe the steps that should be followed when preparing and administering medication.
5. Prepare and administer oral medication.
6. Withdraw medication from a vial and an ampule.
7. Locate the following intramuscular injection sites: dorsogluteal, deltoid, vastus lateralis, and ventrogluteal.
8. Prepare and administer an intradermal, subcutaneous and intramuscular injections.
9. Administer a TB test and read the test results.

## **Topics and Scope:**

### Mathematics of Dosage

1. Roman numerals
2. Fractions
3. Decimal fractions
4. Percentage
5. Proportion
6. Fahrenheit & centigrade
7. Systems of measurement
8. Dosage for children
9. Dosage of drugs standardized in units

### Basic Pharmacology

1. Principles of drug administration
2. Common abbreviations related to route of administration & frequency of dosage.
3. Drugs, by clinical use, including antibiotics, sulfonamides, antihistamines, antihypertensive agents, tranquilizers & antidepressants, hormones, diuretics, urinary antiseptics, antineoplastic drugs, immunizing & immunosuppressive agents, geriatric medication, drugs that affect the respiratory system, blood vessels, the blood, the central nervous system, the autonomic nervous system, & the digestive system.
4. Symptoms of adverse reactions.
5. Vitamins & minerals.
6. Drug & alcohol abuse.

### Administration of Medication

1. History of drug legislation & standards
2. Factors influencing dosage
3. Parts of a prescription
4. Guidelines for preparation and administration of medication
5. Systems of measurement conversions
6. Preparation and administration of oral medication
7. Reconstitution of powdered drug for parenteral administration
8. Withdrawal of medication
9. Location of intramuscular injection sites
10. Preparation and administration of intradermal, subcutaneous and intramuscular injections
11. Administration of TB test

## Assignment:

1. Complete reading assignments, 15-20 pages/week.
2. Complete written assignments:
  - a. math assessment and dosage calculation exercises, 5-50 questions/wk.
  - b. self-evaluation related to reading 5-10 questions/week.
  - c. charting related to administration of medication.
3. Practice calculation of dosages and administration of medicine in lab setting under instructor supervision.
4. Achieve satisfactory score on skill performance evaluation checkoff as each clinical skill is completed.
5. Demonstrate 10, intradermal, 10 subcutaneous, & 10 intramuscular injections after 10 hours of instruction.
6. Complete 3-7 quizzes and a final examination.

## Methods of Evaluation/Basis of Grade:

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Written homework

Writing  
10 - 40%

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Homework problems

Problem solving  
20 - 40%

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Class performances, Performance exams

Skill Demonstrations  
30 - 50%

**Exams:** All forms of formal testing, other than skill performance exams.

Multiple choice, True/false, Matching items, Completion

Exams  
10 - 20%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

None

Other Category  
0 - 0%

## Representative Textbooks and Materials:

Clinical Procedures for Medical Assistants. By K. Bonewit-West, 5th Ed., Saunders, 2000.  
Pharmacology, An Introductory Text. By Mary Kaye Asperheim, 9th Ed., Saunders, 2002.

