

**MA 65 Course Outline as of Spring 1996****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	2.00	Lecture Scheduled	1.00	17.5	Lecture Scheduled	17.50
Minimum	2.00	Lab Scheduled	3.00	17.5	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	4.00		Contact Total	70.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 35.00

Total Student Learning Hours: 105.00

Title 5 Category: AA Degree Applicable

Grading: Grade or P/NP

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

Also Listed As:

Formerly:

**Catalog Description:**

Basic pharmacology includes principles of drug administration & preparation & administration of medications by oral, intradermal, subcutaneous, and intramuscular routes. Students review basic math calculations & conversions for administration of medication. Lab includes return demonstration by students. Drugs are identified by their clinical use, mechanism of action, side effects, & adverse reactions. Risk factors for drug & alcohol abuse are presented along with drug addiction & withdrawal symptoms.

**Prerequisites/Corequisites:**

HLC 60, & ANAT 58 (OR ANAT 52), & MA 61 (formerly MSR 61), & MA 62 (formerly MSR 62B), & MA 63A.

**Recommended Preparation:**

Eligibility for ENGL 1A & MA 60 (formerly MSR 60, MSR 69) or 6 months' experience in a medical office.

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

Description: Basic pharmacology including 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. Discussion of drug & alcohol abuse.

(Grade or P/NP)

Prerequisites/Corequisites: HLC 60, & ANAT 58 (OR ANAT 52), & MA 61 (formerly MSR 61), & MA 62 (formerly MSR 62B), & MA 63A.

Recommended: Eligibility for ENGL 1A & MA 60 (formerly MSR 60, MSR 69) or 6 months' experience in a medical office.

Limits on Enrollment:

Transfer Credit: CSU;

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

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

<b>AS Degree:</b>	<b>Area</b>	Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>	Effective:	Inactive:
<b>IGETC:</b>	<b>Transfer Area</b>	Effective:	Inactive:
<b>CSU Transfer:</b>	Transferable	Effective: Spring 1996	Inactive: Spring 2012
<b>UC Transfer:</b>		Effective:	Inactive:

### **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. Write the basic Roman numerals for their Arabic equivalents.
2. Give examples of the various types of fractions & conversions.
3. Demonstrate accurately the addition, subtraction, multiplication, & division of fractions and mixed numbers.
4. Add, subtract, multiply, and divide decimals.
5. Convert decimals to fractions, and fractions to decimals.
6. Convert percents to decimals, fractions to percents, percents to fractions, & decimals to percents.
7. Use ratio-proportion technique.
8. Convert temperature from Fahrenheit to Centigrade & vice versa.
9. Convert between metric, apothecary, & household systems of measurement.
10. Calculate dosages for infants & children.
11. Calculate dosage of drugs standardized in units.

#### Basic Pharmacology

1. Understand the principles of drug administration.
2. Know common abbreviations related to route of administration & frequency of dosage.

3. Identify characteristics, functions, & sources of vitamins & minerals in the body.
4. Identify symptoms of specific vitamin & mineral deficiencies.
5. Identify drugs according to clinical use.
6. Recognize side effects and adverse reactions to drugs.
7. Recognize the risk factors for drug & alcohol abuse.
8. Demonstrate an understanding of drug addiction & its symptoms, & withdrawal symptoms.

#### Administration of Medication

1. Identify history of drug legislation and standards.
2. List the factors influencing dosage.
3. List & explain the different parts of a prescription.
4. List the guidelines that should be followed when preparing and administering medication.
5. Prepare and administer oral medication.
6. Withdraw medication from a vial and an ampule.
8. Prepare and administer an intradermal injection.
9. Prepare and administer a subcutaneous injection.
10. Locate the following intramuscular injection sites: dorsogluteal, deltoid, vastus lateralis, and ventrogluteal.
11. Prepare and administer an intramuscular injection.
12. Administer a tine test and read the test results.

### Topics and Scope:

#### Mathematics of Dosage

- A. Roman numerals
  - B. Fractions
  - C. Decimal fractions
  - D. Percentage
  - E. Proportion
  - F. Fahrenheit & centigrade
  - G. Systems of measurement
  - H. Dosage for children
  - I. Dosage of drugs standardized in units
- II. Basic Pharmacology
- A. Principles of drug administration
  - B. Common abbreviations related to route of administration & frequency of dosage.
  - C. 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.
  - D. Symptoms of adverse reactions.
  - E. Vitamins & minerals.
  - F. Drug & alcohol abuse.
- III. Administration of Medication

### Assignment:

- A. History of drug legislation & standards.
- B. Factors influencing dosage.
- C. Parts of a prescription.
- D. Guidelines for preparation & administration of medication.
- E. Systems of measurement - conversions.
- F. Preparation and administration of oral medication.
- G. Reconstitution of powdered drug for parenteral administration.
- H. Withdrawal of medication.
- I. Preparation and administration of intradermal injection.
- J. Preparation and administration of subcutaneous injection.
- K. Location of intramuscular injection sites.
- L. Preparation and administration of intramuscular injection.
- M. Administration of tine test.

**ASSIGNMENTS:**

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.

**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  
20 - 50%

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

Homework problems, Quizzes

Problem solving  
10 - 15%

**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, 4th Ed., Saunders, 1995.

Pharmacology, An Introductory Text. By Mary Kaye Asperheim, 7th Ed., Saunders, 1992.