

MA 165 Course Outline as of Spring 2006**CATALOG INFORMATION**

Dept and Nbr: MA 165 Title: PHARM & ADM OF MEDS

Full Title: Pharmacology & Administration of Medications

Last Reviewed: 1/27/2020

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:

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

Prerequisites/Corequisites:

Concurrent Enrollment in MA 163L (or MA 163AL) and Concurrent Enrollment in MA 163 (or MA 163A)

Recommended Preparation:

Course Completion of ENGL 100 and Course Completion of CSKLS 100 (or CSKL 100 or CSKL 374 or CSKL 373B) OR Course Eligibility for EMLS 100 (or ESL 100)

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

Description: Basic pharmacology including principles, preparation, and administration of

medications by various routes. Basic math review for dosage calculations. Identification of drugs by clinical use, action, side effects, and adverse reactions. (Grade Only)

Prerequisites/Corequisites: Concurrent Enrollment in MA 163L (or MA 163AL) and Concurrent Enrollment in MA 163 (or MA 163A)

Recommended: Course Completion of ENGL 100 and Course Completion of CSKLS 100 (or CSKL 100 or CSKL 374 or CSKL 373B) OR Course Eligibility for EMLS 100 (or ESL 100)

Limits on Enrollment:

Transfer Credit:

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

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	Area	Effective:	Inactive:
CSU GE:	Transfer Area	Effective:	Inactive:

IGETC:	Transfer Area	Effective:	Inactive:
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CSU Transfer:	Effective:	Inactive:
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UC Transfer:	Effective:	Inactive:
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CID:

Certificate/Major Applicable:

Both Certificate and Major Applicable

COURSE CONTENT

Outcomes and Objectives:

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

1. Mathematics of Dosage:

- a. Write the basic Roman numerals for their Arabic equivalents.
- b. Give examples of the various types of fractions and conversions.
- c. Demonstrate accurately the addition, subtraction, multiplication, and division of fractions and mixed numbers.
- d. Add, subtract, multiply, and divide decimals.
- e. Convert decimals to fractions, and back again.
- f. Convert percents to decimals, fractions to percents, percents to fractions, and decimals to percents.
- g. Use ratio-proportion technique.
- h. Convert temperature from Fahrenheit to Centigrade and vice versa.
- i. Convert between metric, apothecary, and household systems of measurement.
- j. Calculate dosage for infants and children.
- k. Calculate dosage of drugs standardized in units.

2. Basic Pharmacology

- a. Discuss principles of drug administration.
- b. Identify common abbreviations related to route of administration and frequency of dosage.
- c. Compare and contrast characteristics, functions, and sources of

- vitamins and minerals in the body.
 - d. Identify symptoms of specific vitamin and mineral deficiencies.
 - e. Identify drugs according to clinical use.
 - f. Recognize side effects and adverse reactions to drugs.
 - g. Recognize the risk factors for drug and alcohol abuse.
 - h. Describe drug addiction, its symptoms, and withdrawal symptoms.
3. Administration of Medication
- a. Identify history of drug legislation and standards.
 - b. List the factors influencing dosage.
 - c. List and explain the different parts of a prescription.
 - d. List the steps that must be followed when preparing and administering medication.
 - e. Prepare and administer oral medications.
 - f. Withdraw medication from a vial and an ampule.
 - g. Prepare and administer an intradermal injection and subcutaneous injection.
 - h. Locate the following intramuscular injection sites: dorsogluteal, deltoid, vastus lateralis, and ventrogluteal.
 - i. Prepare and administer an intramuscular injection.
 - j. Administer a TB test and read the test results.
 - k. Chart/document medications using correct spelling.

Topics and Scope:

- I. Mathematics of Dosage
 - A. Roman numerals
 - B. Fractions
 - C. Decimal fractions
 - D. Percentage
 - E. Proportion
 - F. Fahrenheit and 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 and frequency of dosage
 - C. Drugs, by clinical use, including antibiotics, sulfonamides, antihistamines, antihypertensive agents, tranquilizers and antidepressants, hormones, diuretics, urinary antiseptics, antineoplastic drugs, immunizing & immunosuppressive agents, geriatric medication
 - D. Drugs that affect the respiratory system, blood vessels, the blood, the central nervous system, the autonomic nervous system, and the digestive system.
 - E. Symptoms of adverse reactions
 - F. Vitamins & minerals
 - G. Drug & alcohol abuse
- III. Administration of Medication
 - A. History of drug legislation and standards
 - B. Factors influencing dosage

- C. Parts of a prescription
- D. Guidelines for preparation and administration of medication
- E. Systems of measurement conversions
- F. Preparation and administration of oral medications
- G. Reconstitution of powdered drugs for parental administration
- H. Withdrawal of medication
- I. Preparation and administration of intradermal and subcutaneous injections
- J. Location of intramuscular injection sites
- K. Preparation and administration of intramuscular injection
- L. Administration of TB tests
- M. Spelling review of medications

Assignment:

1. Complete reading assignments, 15-20 pages per week.
2. Complete assignments:
 - a. math assessment and dosage calculation exercises, 5-50 questions per week.
 - b. self-evaluation related to reading 5-10 questions per week.
 - c. charting related to administration of medication.
3. Practice calculation of dosages and administration of medicines in lab setting under instructor supervision.
4. Skill performance evaluations as each clinical skill is completed.
5. Demonstrate 10 intradermal, 10 subcutaneous, and 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 - 30%
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Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Homework problems, Dosage calculations.	Problem solving 20 - 40%
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Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Class performances, Performance exams	Skill Demonstrations 30 - 50%
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Exams: All forms of formal testing, other than skill performance exams.

Multiple choice, True/false, Matching items, Short essay.

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, 6th Ed., Saunders, 2004.

Pharmacology, An Introductory Text. By Mary Kaye Asperheim, 9th Ed., Saunders, 2004.

STUDENT MASTERY MANUAL. By K. Bonewit-West, 6th Ed., Saunders, 2004.