



South Central College

MA 2000 Pharmacology for Medical Assistants

Common Course Outline

Course Information

Description	In this course, students will learn topics essential for the Medical Assistant to thoroughly understand drug sources, herbs, and supplements, legislation relating to drugs, drug references, and drug classifications. Students will also gain knowledge in basic principles for administering different types of medications and the universal precautions and standards related to the role of a Medical Assistant. Prerequisites HC 1000 and 1914 and MA 2010.
Total Credits	3
Total Hours	64

Types of Instruction

Instruction Type	Credits/Hours
Lecture	2
Lab	1

Pre/Corequisites

Prerequisite	HC1000 Medical Terminology
Prerequisite	HC1914 Anatomy and Physiology/Disease Conditions I
Prerequisite	MA2010 Medical Assisting Lab Skills

Institutional Core Competencies

Civic Engagement and Social Responsibility - Students will be able to demonstrate the ability to engage in the social responsibilities expected of a community member.

Course Competencies

1. Learn the different classifications to medications

Learning Objectives

- Describe the relationship between anatomy and physiology of all body systems and medications used for treatment in each
- Define drug, therapeutic effect, and side effects
- Identify the classification of medications, including desired effects, side effects and adverse reactions
- Use drug references to prepare a drug card
- List the federal agencies that enforce drug laws
- Explain why Medical Assistants must be familiar with drug laws

2. List principles of drug action

Learning Objectives

Summarize the difference between the therapeutic effect and side effects

Explain the difference between psychological and physical drug dependence

Apply local, state and federal healthcare legislation and regulation appropriate to the Medical Assisting practice setting

Explain why drug standards are necessary

Identify five commonly abused drugs

Describe a Medical Assistant's responsibility in regards to adverse reactions, drug, dependence, and drug abuse

3. Demonstrate knowledge of basic math computations

Learning Objectives

Define basic units of measurements in metric apothecary and household systems

Summarize the abbreviations for units of measurement in the metric, apothecary and household systems

Convert among measurement systems

Apply mathematical computations to solve equations

Calculate doses using a different procedure for converting between different units of measurement

Calculate an adult's dose of medication

Identify abbreviations, symbols and measurement systems used in calculating medication dosages

4. Demonstrate the administering of parenteral medications

Learning Objectives

Administer parenteral (excluding IV) medications

Prepare proper dosages of medication for administration

Identify the parts of a needle and syringe and list appropriate sizes for different types and sites of injection

Identify dosage in calibrated syringes

Dispose of injection equipment safely

Illustrate reconstituting and storing parenteral medications

Identify the most common injection sites for intradermal, subcutaneous, and intramuscular administration and describe the follow proper procedure for carrying out injections

Verify order doses/dosage prior to administration

Illustrate proper administration of subcutaneous, intradermal and intramuscular injections

5. Describe the concept of medication therapy

Learning Objectives

Describe the various forms of medication, ranging from liquids to solids

Describe the routes for administering medications

Define the abbreviations for medications forms, routes, administration times, and general medical terms

Identify the parts of a medication order

Identify single-dose and multiple-dose packaging of drugs

Demonstrate recognition of the patient's level of understanding in communications

Explain the rules for giving medications

Identify the parts of a medication label

Demonstrate accurate, complete, and organized charting

6. Describe vitamins, minerals, and herbs

Learning Objectives

Explain the food groupings according to MyPyramid

Distinguish between fat-soluble and water-soluble vitamins

List the various vitamins and minerals and their functions

State the recommended daily allowance of the major vitamins and minerals and recognize deficiency symptoms of each

Explain the importance of patient education in the appropriate use of vitamins and minerals

7. Identify drugs for the eye and ear

Learning Objectives

Identify the external parts of the eye and ear

Describe the major disorders of the eye and ear for which medications are given

Describe the actions and give example of drug groups relating to the eye and ear
Illustrate administering medications to the eye and ear
Summarize the importance of patient education with eye and ear medications

8. Identify drugs for the skin

Learning Objectives

Summarize the main functions of the integumentary system
Define and describe common symptoms of skin disorders and major skin disorders which medications are given
State the actions and give examples of topical medications
Explain the importance of patient education with skin medications
Illustrate administering topical medications to the skin

9. Identify the classification of drugs for the cardiovascular system

Learning Objectives

Identify parts of the cardiovascular system and state their functions
Identify proper medical terms for common symptoms of cardiovascular disorders
Explain the major disorders for which cardiovascular medication is given
Describe the actions and give examples of the cardiovascular drug groups
State the difference between an initial and a maintenance dose
Administer oral and sublingual medications
State special procedures for administering cardiovascular medications

10. Identify the classification of drugs for the respiratory system

Learning Objectives

Describe the parts of the respiratory system
Describe major respiratory disorders which medications are given
Describe common symptoms of respiratory disorders using correct medical terminology
Describe nicotine dependency and methods for smoking cessation
Understand the principles and how to operate a pulse oximeter
Administer inhalants as ordered

11. Identify the classification of drugs for the gastrointestinal system

Learning Objectives

Describe the five main functions of the gastrointestinal system
Describe symptoms of gastrointestinal disorders and the major disorders for which medications are given
Describe the actions and give examples of medications for the gastrointestinal system
Identify important conditions to be aware of when giving medications for the gastrointestinal system
Describe proper procedure for administering rectal suppositories

12. Identify the classification of drugs for the urinary system

Learning Objectives

Describe the major disorders of the urinary system for which medications are given
Describe three functions of the urinary system
Describe the actions and give examples of the urinary system drug groups
Describe the patient care and education that go with giving diuretics
Describe the purpose of a urinary catheter

13. Identify the classification of drugs for the reproductive system

Learning Objectives

Identify the main parts of the male and female internal and external genitalia
Identify the main parts and functions of the reproductive system using correct medical terminology
Recall the hormones produced by the male and female gonads and describe their functions
Describe major disorders that affect the reproductive system which medications are given
Summarize the importance of patient education with reproductive system medications

14. Identify the classification of drugs for the endocrine system

Learning Objectives

List the hormones produced by the seven major glands, and state the actions of hormone or hormone like drugs
State which hormones are lacking in the conditions of diabetes mellitus, diabetes insipidus, Addison's disease,

and hypothyroidism, and give examples of drugs used for replacement in each case
State the correct medical terms used for the parts of the endocrine system
State what factors affect the insulin needs of a patient with diabetes mellitus, and describe the procedure for administering regular and immediate-acting insulin in one syringe
Recognize the symptoms of hyperglycemia and hypoglycemia and explain how they are treated

15. Identify the classification of drugs for the skeletal system

Learning Objectives

List correct medical terms used to describe major parts, functions, and disorders of the musculoskeletal system
Recognize descriptions of major disorders that affect the musculoskeletal system
Describe the major disorders of the skeletal system for which medications are given
Describe the side of the various drug categories used in the musculoskeletal system

16. Identify the classification of drugs for the nervous and sensory system

Learning Objectives

List the two main divisions of the nervous system and their parts
State the basic function of the autonomic nervous system
Recall the correct medical terms for symptoms of nervous system disorders
Recognize descriptions of the major nervous system disorders for which medications are given
Describe the actions and give examples of drugs groups associated with the nervous and sensory system
Demonstrate administering medications for pain and emergency drugs

17. Define psychotropic drugs

Learning Objectives

Describe biochemical mechanisms of the central nervous system that affect emotions
Define the correct medical terms for symptoms of mental disorders
Recognize descriptions of the major mental disorders
Describe the actions and give examples of the drugs groups associated with mental disorders
Identify drugs that are often involved in drug abuse
Calculate formulas for psychotropic drugs

18. Identify the classification of drugs for the nervous and sensory system

Learning Objectives

List the two main divisions of the nervous system and their parts
State the basic function of the autonomic nervous system
Recall the correct medical terms for symptoms of nervous system disorders
Recognize descriptions of the major nervous system disorders for which medications are given
Describe the actions and give examples of drugs groups associated with the nervous and sensory system
Demonstrate administering medications for pain, emergency drugs, stimulants, and effects of caffeine
Calculate drugs for the nervous and sensory system

19. Define neoplastic drugs

Learning Objectives

Identify cells, tissues, organs, and body systems
Recall the four types of body cells
State the three characteristics of cancer
Explain how chemotherapy works
List common antineoplastic drugs and their effects on the cell cycle
List common side effects for patients receiving chemotherapy and identify appropriate care for patients
List at least three groups of antineoplastic drugs and give examples
Calculate formulas for antineoplastic drugs

20. Describe the appropriate drugs for the geriatric patient

Learning Objectives

Describe the major changes that take place in the various body systems during aging
Demonstrate how individualized treatment of older adults must be established according to each person's needs
Explain how medication orders are usually adjusted to account for the pharmacokinetics of older adults and describe the effects of aging on absorption, distribution, metabolism, and excretion
Explain why the presence of multiple diseases in older adults makes drug therapy more complicated

Explain how older adults are affected by the attitudes and actions of healthcare workers
Describe safe medication administration practices and the principles that are specific for the older adult patient
List ways that patients can take an active part in their own medication therapy
Calculate drugs for the geriatric patient