# Common Course Outline

MDAS 261

Clinical Medical Assisting III: Medication Dosing and Administration

3 Credits

# The Community College of Baltimore County

## Description

**MDAS 261 – Clinical Medical Assisting III: Medication Dosing and Administration** introduces students to drug sources, uses, classifications, errors, side effects, regulations, and legal and ethical considerations. Applications include dosage calculation, administration techniques, documentation, and biohazard disposal. This course is the same as OFAD 261.

**3 Credits:** 2 lecture hours per week; 2 laboratory hours per week

**Prerequisites:** MDAS 253 or OFAD 253, Math 082, or consent of the program coordinator

## Overall Course Objectives

Upon completion of this course students will be able to:

1. identify scope of practice for medication administration by medical assistants;
2. discuss the legal and ethical implications of medication administration;
3. identify drug nomenclature and classifications;
4. differentiate medications prescribed for the treatment of illness and disease based on body systems and specific diseases;
5. identify contents of a prescription and abbreviations used on a prescription;
6. cite medication pharmacokinetics and explain side effects and adverse reactions;
7. describe the medication order;
8. apply standard precautions when administering or disposing of medications;
9. calculate dosages accurately for parenteral administration for adults and children;
10. evaluate sites for proper administration of various parenteral drugs;
11. perform intramuscular injections;
12. perform subcutaneous injections;
13. perform intradermal injections;
14. calculate dosages for oral medication administration;
15. dispense oral medication using standard practice technique;
16. explain intravenous therapy;
17. describe inhalation medications and its administration;
18. describe common medication administration errors and explain appropriate prevention strategies and emergency procedures;
19. recognize, evaluate, and manage allergic reactions; and
20. administer oxygen.

**Major Topics**

I. Fundamentals of Medication Administration
   a. Federal and state legal issues and regulations in pharmacology
   b. Food and Drug Administration, and Drug Enforcement Agency
   c. Physician's Desk Reference and other drug reference books
   d. Common prescription abbreviations
   e. Health care workers and the law
   f. Ethical considerations
   g. Drug nomenclature and classification

II. Sources and Bodily Effects of Drugs
   a. Sources of drugs
   b. Effects of drugs
   c. Pharmacokinetics
   d. Absorption
   e. Distribution
   f. Metabolism
   g. Excretion
   h. Unexpected responses to drugs

III. Drug Classifications by Body System
   a. Overview of all classifications
   b. Skin
   c. Nervous system
   d. Urinary system
   e. Gastrointestinal system
   f. Eye
   g. Musculoskeletal System
   h. Endocrine system
   i. Reproductive system
   j. Cardiovascular system
   k. Respiratory system
   l. Vitamins, minerals & herbs
   m. Other Classifications
   n. Anti-neoplastic drugs
   o. Anti-infective drugs
   p. Analgesics, sedatives, and hypnotics
   q. Psychotropic medications, alcohol and drug abuse
   r. Anti-inflammatory drugs
   s. Anti-convulsants, anti-Parkinsonian and agents for Alzheimer's disease
   t. Pre-operative medications and local anesthetics

IV. Standard and Universal Precautions
   a. Administration of medications
   b. Disposal of medications

V. Responsibilities and Principles of Drug Administration
   a. Responsible administration
   b. Principles of administration
   c. Medication errors

d. Documentation
e. Poison control

VI. Dosage Calculations
a. Calculate dosages accurately for parenteral administration for adults and children;
b. Needle gauges and syringes sizes
c. Measuring and dosing using various sized syringes
d. Oral medication dosing
e. Nasal, ophthalmic, otic, and topical dosing

VII. Administration of Medications
a. Oral
b. Nasal
c. Ophthalmic
d. Otic
e. Nasogastric tube
f. Topical

VIII. Parenteral Administration
a. Sublingual and buccal
b. Transcutaneous
c. Inhalation
d. Intramuscular injection
e. Intradermal injection
f. Subcutaneous injection

IX. Emergency Recognition and Intervention
a. Recognize and manage an allergic drug reaction
b. Administer oxygen per physicians order
c. Describe common medication errors

**Course Requirements**

CPR certification, uniform, physician's medical examination, and proof of immunizations are required prior to admission (please refer to the Medical Assisting Handbook). This course may not be offered in all semesters; se registration schedule. Minimum grade of "C" is required to pass.

**Grading/exams**

Grading procedures will be determined by the individual faculty member but will include the following:

- Clinical skills demonstration and charting with 100% accuracy (accuracy is determined by performing the skill 3 consecutive times with no errors.
- Written essay (500 word minimum)
- Midterm exam
- Final exam

Written Assignments: Students are required to use appropriate academic resources.