

Common Course Outline
OFAD 261
Clinical Medical Assisting III: Medication Dosing and Administration
3 Credits

The Community College of Baltimore County

Description

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.

3 credits; 2 lecture hours per week; 2 laboratory hours per week

Prerequisites: OFAD 253, MATH 082, or consent of the program coordinator.

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

Overall Course Objectives

Upon successful completion of this course, students will be able to:

1. compute basic math problems without using a calculator;
2. add, subtract, multiply, and divide decimals;
3. identify the relative value of decimals;
4. list basic units of measurement within the metric system and between metric system and household systems;
5. identify basic units of weight and volume in the metric and household systems;
6. identify scope of practice for medication administration by medical assistants;
7. discuss the legal and ethical implications of medication administration;
8. identify drug nomenclature and classifications;
9. differentiate medications prescribed for the treatment of illness and disease based on body systems and specific diseases;
10. identify contents of a prescription and abbreviations used on a prescription;
11. cite medication pharmacokinetics and explain side effects and adverse reactions;
12. describe the medication order;

13. apply standard precautions when administering or disposing of medications;
14. calculate dosages accurately for parenteral administration for adults and children;
15. evaluate sites for proper administration of various parenteral drugs;
16. perform intramuscular injections;
17. perform subcutaneous injections;
18. perform intradermal injections;
19. calculate dosages for oral medication administration;
20. dispense oral medication using standard practice technique;
21. explain intravenous therapy;
22. describe inhalation medications and its administration;
23. describe common medication administration errors and explain appropriate prevention strategies and emergency procedures;
24. recognize, evaluate, and manage allergic reactions; and
25. administer oxygen.

Major Topics

- I. Basic Math Review
 - a. Add, subtract, multiply and divide decimals
 - b. Ratio and proportion
 - c. Metric and household units of measurement
 - d. Measurement of weight and volume
 - e. Measurement abbreviations
 - f. Basic math test
- II. 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
- III. 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
- IV. 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
- V. Standard and Universal Precautions
- a. Administration of medications
 - b. Disposal of medications
- VI. Responsibilities and Principles of Drug Administration
- a. Responsible administration
 - b. Principles of administration
 - c. Medication errors
 - d. Documentation
 - e. Poison control
- VII. 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
- VIII. Administration of Medications
- a. Oral
 - b. Nasal
 - c. Ophthalmic
 - d. Otic
 - e. Nasogastric tube
 - f. Topical
- IX. Parenteral Administration
- a. Sublingual and buccal
 - b. Transcutaneous
 - c. Inhalation
 - d. Intramuscular injection

- e. Intradermal injection
- f. Subcutaneous injection
- X. 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

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

- Clinical skills demonstration and charting with 100% accuracy
- Pass basic math test with 95% accuracy
- Essay on related topic (500 word minimum)
- Midterm written exam
- Final written exam