

# Fundamentals of Pharmacology

Credits: 3

## Course Description

This course provides an overview of pharmacology language, abbreviations, systems of measurement and conversions as they relate to medication administration. Students will learn the measurement of medication, dosage calculations, routes of administration, and commonly prescribed drugs in the medical office. Topics include legal implementations regarding controlled substances and other medications, forms of medications, patient care applications, drug classifications/interactions, and safety in medication administration and patient care. This course includes a lab. Prerequisites: Basic Algebra, Human Biology and Medical Terminology.

## Essential Objectives

- Explain the responsibilities of the medical assistant regarding medication administration and the conditions under which a medical assistant may administer medication.
- Understand the legal and ethical implications associated with controlled substances and prescription pads including the role of the FDA, function of the Drug Enforcement Administration, and purpose of the Controlled Substance Act.
- Apply accurate medical terminology related to pharmacology and administration of medication.
- Calculate doses accurately for oral and parenteral medications.
- Interpret and document medication orders, including the parts of a prescription.
- Identify classifications of drugs, factors that affect drug action, and the undesirable actions of given drugs.
- Determine classification and application of routes of administration for oral and parenteral medications in relation to the target effect.
- Demonstrate an understanding of medical recordkeeping, storage, safety, and quality assurance related to medications dispensed in the medical office.
- Laboratory objectives:
  - Demonstrate the procedure for using a Physicians Desk Reference and other reference sources.
  - Demonstrate proper patient assessment skills prior to medication administration, and patient education regarding uses, interactions and adverse effects.
  - Demonstrate the ability to administer intradermal, subcutaneous, and intramuscular injections.

## Laboratory objectives:

1. Demonstrate the procedure for using a Physicians Desk Reference and other reference sources.
2. Demonstrate proper patient assessment skills prior to medication administration, and patient education regarding uses, interactions and adverse effects.
3. Demonstrate the ability to administer intradermal, subcutaneous, and intramuscular injections.

## **Methods:**

- Lecture
- Small-group and whole-class discussion
- Small group activities
- Demonstrations of procedures with return demonstration from students

## **Evaluation Criteria:**

Accomplishment of course objectives will be evaluated on the basis of:

- Attendance and Participation 10%
- 4 Exams 80%
- Quizzes 10%

The format for the written quizzes may be a mix of multiple choice, fill-in the blanks, matching, and/or short answer. There are no makeups for exams if you are absent. You will get one "free pass", if you are absent for one quiz. If you are absent for a second quiz (written or practical), you will be required to write a one page paper (typed) on the information you missed, which will be due the next class. The paper will be graded as a pass/fail. If you are absent for a class, and a quiz is given in the next class, you will be expected to know the material to take the quiz. Please check with your classmates to get this information. The final exam will be a mix of old exams and new questions. Final examinations **cannot** be made up, unless there is an excused absence, at my discretion.

## **Grading Criteria:**

**A+ through A-:** For any work to receive an "A," it must clearly be exceptional or outstanding work. It must demonstrate keen insight and original thinking. It must not only demonstrate full understanding of the topic or issues addressed, but it must also provide a critical analysis of these. In addition, an "A" grade reflects a student's ability to clearly and thoughtfully articulate his or her learning.

**B+ through B-:** For any work to receive a "B," it must be good to excellent work. It must demonstrate strong originality, comprehension, critical thinking, and attention to detail. In addition, a "B" grade reflects a student's ability to clearly articulate his or her learning.

**C+ through C-:** For any work to receive a "C," it must meet the expectations of the assignment. It must demonstrate solid comprehension, critical thinking, and attention to detail. In addition, a "C" grade reflects a student's ability to adequately articulate his or her learning.

**D+ through D-:** For any work to receive a "D," it must marginally meet the expectations of the assignment. It demonstrates minimal comprehension, critical thinking, and attention to detail. In addition, a "D" grade may reflect a student's difficulty in articulating his or her learning.

**F:** Work that receives an "F" grade does not meet the expectations or objectives of the assignment. It demonstrates consistent problems with comprehension, organization, critical thinking, and supporting details. In addition, an "F" grade reflects a student's inability to articulate his or her learning. Students are strongly urged to discuss this grade with their instructor and advisor.

**P:** Equivalent to D (+/-) or better and therefore course will not count as credit for specific program requirements or competence area requirements.

**NP:** indicates failure to meet course objectives and/or failure to meet grading criteria for successful completion as described in the instructor's course description.

**Textbooks:**

*Principles of Pharmacology for Medical Assisting*, ISBN: 9781111131821, \$178.95

**Attendance Policy:**

Regular attendance and participation in classes are essential components of a student's success in college and are completion requirements for courses at CCV. Please be aware that missing more than three (3) classes will result in a non-satisfactory grade. Patterns of late arrival or early departure will constitute absence at the instructor's discretion. Missing one or more classes can impact your grade. Chronic late or early departures (10 minutes) can also impact your grade. This also can be distracting to your classmates. Communicating is essential.

**Tentative lecture schedule:****Pharmacology Weekly Reading Assignment and Exam Schedule**

Week	Reading Assignment	Exam Schedule
September 2	Section One Mathematics and Dosage Calculations Units 1 & 2	
September 9	Section One Mathematics and Dosage Calculations Units 3, 4, 5, & 6	
September 16	Section Two Introduction to Pharmacology Units 7, 8, 9, & 10	Exam 1
September 23	Section Two Introduction to Pharmacology Units 11 & 12	
September 30	Section Two Introduction to Pharmacology Units 13 & 14	
October 7	Lab	
October 14	Lab	
October 21	Unit 15 Antibiotics Unit 16 Antifungal, Antiviral, Immunizing Agents	Exam 2
October 28	Unit 19 Psychotropic Agents Unit 20 Substance Abuse	
November 4	Unit 23 Cardiovascular System Drugs Unit 17 Antineoplastic	
November 11	Unit 24 Respiratory System Drugs Unit 27 Nervous System Drugs	Exam 3
November 18	Unit 25 Urinary System Drugs Unit 28 Reproductive System Drugs	
November 25	Unit 21 Musculoskeletal System Drugs Unit 22 GI System Drugs	
December 2	Unit 18 Vitamins, Minerals, and Herbals Unit 26 Endocrine System Drugs	
December 9		Exam 4

***Please note:*** *In order to receive accommodations for disabilities in this course, students must make an appointment to see the Americans with Disabilities Coordinator in their site and bring documentation with them.*

**Academic Honesty:** CCV has a commitment to honesty and excellence in academic work and expects the same from all students. Academic dishonesty, or cheating, can occur whenever you present -as your own work- something that you did not do. You can also be guilty of cheating if you help someone else cheat. Being unaware of what constitutes academic dishonesty (such as knowing what plagiarism is) does not absolve a student of the responsibility to be honest in his/her academic work. Academic dishonesty is taken very seriously and may lead to dismissal from the College.