

Course Objectives/Course Outline
Spokane Community College

Course Title: Respiratory Care Pharmacology

Prefix and Course Number: RT 263

Course Learning Outcomes:

By the end of this course, a student should be able to:

- Understand principles of pharmacology and the routes of drug delivery with emphasis on aerosol delivery of pulmonary medications
- Introduction to pharmacology
- Differentiate between the different principles of drug action
- Differentiate between the different ways of administering aerosolized agents
- Calculate drug dosages
- Differentiate between the central and peripheral nervous systems
- Differentiate between the adrenergic bronchodilators
- Differentiate between the anticholinergic bronchodilators
- Discuss the use of Methyl Xanthines
- Evaluate when mucous controlling drugs are appropriate
- Evaluate when aerosolized anti-infective agents are appropriate

Course Outline:

- I. Introduction to pharmacology
 - A. Definitions
 - B. Naming drugs
 - C. Sources of drug information
 - D. FDA drug approval
 - E. Pharmacologic applications in respiratory care
- II. Principles of drug action
 - A. Administration phase
 - B. Pharmacokinetic phase
 - C. Pharmacodynamic phase
 - D. Pharmacogenetics
- III. Administration of aerosolized agents
 - A. Physics of aerosols
 - B. Aerosol generators
 - C. Selecting an aerosol delivery device
 - D. Clinical application of aerosol delivery
- IV. Calculating drug doses
- V. Central and peripheral nervous system
 - A. Autonomic
 - B. Parasympathetic
- VI. Adrenergic bronchodilators
- VII. Anticholinergic bronchodilators
- VIII. Xanthines
- IX. Mucus-controlling drugs

- X. Surfactant agents
- XI. Corticosteroids
- XII. Nonsteroidal antiasthma agents
- XIII. Aerosolized anti-infective agents