

**J. Sargeant Reynolds Community College
Course Content Summary**

Course Prefix and Number: EMS 125

Credits: 1

Course Title: Basic Pharmacology

Course Description: Prepares students to demonstrate competency concerning basic principles of pharmacology, drug dosage calculations, and medication administration. Introduces medications listed in the Advanced EMT (AEMT) scope of practice.

Prerequisite: Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS. Co-requisite: EMS 126. Lecture 1 hour per week.

General Course Purpose: The purpose of this course is to introduce the novice student to the principles of pharmacology and skills related to intravenous therapy and medication administration.

Course Prerequisites and Co-requisites:

Prerequisite: Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS

Co-requisite: EMS 126

Student Learning Outcomes:

Upon completing the course, the student will be able to

- a. Discuss safe practices involved in medication administration;
- b. Identify laws that regulate medications in the United States;
- c. Outline types of medication by classification;
- d. Define key terms related to pharmacology;
- e. Determine drug dosages based on presenting factors;
- f. Compare and contrast the advantages and disadvantages of different routes of medication administration; and
- g. Describe the pharmacological aspects of various medications.

Major Topics to Be Included:

- a. Medication Safety
 - Safe practices in medication administration
 - Legislation related to medications
- b. Medication Overview
 - Types of names
 - Classifications
 - Storage and security
 - Terminology related to medications

- c. Pharmacological Concepts
 - Pharmacokinetics
 - Pharmacodynamics
 - Special considerations in pediatrics and geriatrics

- d. Medication Administration
 - Routes of administration
 - Methods of calculating drug doses
 - Advantages and disadvantages of administration techniques
 - Patient response to medication
 - Documentation

- e. Specific Medications [for Advanced EMT (AEMT) – a mid-level certification between EMT and paramedic]
 - Albuterol
 - Aspirin
 - Dextrose
 - Epinephrine (intramuscular or subcutaneous)
 - Glucagon
 - Glucose
 - Intravenous fluids
 - Naloxone
 - Nitroglycerin
 - Nitrous oxide

Date Created/Updated (Month, Day, and Year): September 21, 2018