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