

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

Course Prefix and Number: EMS 126

Credits: 1

Course Title: Basic Pharmacology Lab

Course Description: Focuses on the safe administration of medications in the emergency setting. Includes drug dose calculation and covers multiple routes of administration including oral, intramuscular, subcutaneous, intravenous, and intraosseous and other methods within the scope of practice for the emergency care provider. Prerequisite: Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS. Co-requisite: EMS 125. Laboratory 2 hours per week.

General Course Purpose: The purpose of this course is to teach the novice student the skills related to intraosseous, 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 125

Student Learning Outcomes:

Upon completion of the course, the student will be able to

- a. Establish a minimum of two (2) intravenous (IV) catheters in a laboratory setting within 100% accuracy;
- b. Demonstrate the ability to initiate an intravenous fluid bolus on a minimum of two (2) patients in a laboratory setting;
- c. Demonstrate the ability to initiate a piggyback infusion on a minimum of two (2) patients in a laboratory setting;
- d. Establish a minimum of two (2) intraosseous (IO) infusions within 100% accuracy;
- e. Administer a minimum of one (1) medication via the intramuscular (IM) route within 100% accuracy;
- f. Administer a minimum of one (1) medication via the subcutaneous (SC) route within 100% accuracy;
- g. Administer a minimum of two (2) medications via the intranasal (IN) route within 100% accuracy;
- h. Administer a minimum of two (2) medications via a nebulizer within 100% accuracy; and
- i. Calculate various drug dosages within 100% accuracy.

Major Topics to Be Included:

- a. Administration of Medication to a Patient
 - Routes of administration
 - The “rights” of drug administration
 - Drug dose calculations
 - Preventing medication errors

- b. Intravenous Techniques
 - Aseptic technique
 - Safety measures
 - Establishing an IV

- c. Intraosseous Techniques
 - Safety measures
 - Concepts of humeral intraosseous
 - Concepts of tibial intraosseous
 - Establishing an IO

- d. Safety and Proper Technique for Other Methods of Medication Administration
 - Oral/Sublingual
 - Transdermal
 - Intranasal
 - Nebulized
 - Intramuscular
 - Subcutaneous
 - Intravenous/Intraosseous bolus
 - Intravenous/Intraosseous piggyback

- e. Specific Medications
 - Albuterol
 - Aspirin
 - Dextrose
 - Epinephrine (intramuscular or subcutaneous)
 - Glucagon
 - Glucose
 - Intravenous fluids
 - Naloxone
 - Nitroglycerin
 - Oxygen
 - Nitrous oxide

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