

EMS 130 Pharmacology

COURSE DESCRIPTION:

Prerequisites: Take EMS 110

Corequisites: None

This course introduces the fundamental principles of pharmacology and medication administration and is required for paramedic certification. Topics include medical terminology, pharmacological concepts, weights, measures, drug calculations, vascular access for fluids and medication administration and legislation. Upon completion, students should be able to accurately calculate drug dosages, properly administer medications, and demonstrate general knowledge of pharmacology.

Course Hours per Week: Class, 3. Lab Hours per Week, 3. Semester Hours Credit, 4.

LEARNING OUTCOMES:

Upon completing requirements for this course, the student will be able to:

1. Describe principles of pharmacokinetics and pharmacodynamics.
2. Describe mechanism of action of prehospital medications. Select appropriate medications based on indication and mechanism of action.
3. Accurately calculate drug dosages.
4. Administer medications via all routes in the paramedic scope of practice.
5. Demonstrate safe medication storage and sharps handling by placing in approved sharps containers.
6. Use appropriate medical terminology when describing medication administration.
7. Accurately document medication administration.

OUTLINE OF INSTRUCTION:

- I. Didactic (1st 8 weeks)
 - A. Acid-Base and Shock
 - B. EMS Legal & RSI Pharmacology
 - C. Immunology
 - D. Nervous System
 - E. Physiology Review
 - F. Introduction to Pharmacology
 - G. Medication Skills
 - H. Routes of Administration and Preparing Medications
 - I. Medication Administration & Skills
 - J. Medication Math
 - K. Scenarios & Skills for Medication Math
 - L. Pharmacology Scenarios
 - M. Practice Skills & Scenarios

II. Pharmacology Midterm Review & Exam

III. Didactic (2nd 8 weeks)

- A. Nervous System Review and Medications (stimulants & depressants)
- B. Cardiac & Anti-Hypertensive Medications
- C. GI & Endocrine Medications
- D. Analgesics
- E. Psychiatric Medications
- F. How to Read & Utilize Protocols
- G. Review Drug Cards
- H. Medication Math & Pharmacology Review
- I. ACLS (specialty certification)

IV. Skill Evaluations/Written Final

- A. IO Infusions, IM & SQ Injections, & IN Medication Administration
- B. Inhaled Medications, Glucometer, IV Piggyback Make-Up Modules
- C. Complete Modules for Pharmacology
- D. Mock TSOPs & Review
- E. Final Pharmacology TSOP
- F. Pharmacology Final Written Exam

REQUIRED TEXTBOOK AND MATERIAL:

AAOS: Sanders' Paramedic Textbook 5th Edition & Durham Technical CC – EMS Program – Pharmacology Provider Manual