COURSE NO. AND TITLE: PSM 103 Pharmacology and Respiratory

I. FSM MISSION STATEMENT

The mission of the Public Safety Management Program (PSM) is to provide you, the Public Safety professional with highly trained and qualified instructors within the various fields of study in the PSM program. We are committed to the enhancement and advancement of Public Safety professionals through higher education.

II. COURSE DESCRIPTION:

Integrates comprehensive knowledge of to formulate a treatment plan intended to mitigate emergencies and improve the overall health of the patient. Integrate scene and patient assessment with knowledge of epidemiology and pathophysiology to form a field impression. Integrates complex knowledge of anatomy, physiology into the assessment to develop and implement a treatment plan with the goal of ensuring a patient airway, adequate mechanical ventilation, and respiration for patients of all ages.

III. PREREQUISITE

All students must, in addition to SIU requirements, possess a valid CPR card for Healthcare Providers and Illinois EMT-B License through the entire time enrolled. If student possesses a valid NREMT license they must obtain an IL Basic License by week one of this class. It will be valid for 4 years or until student completes the Paramedic Exam.

A basic A& P class and Medical Terminology class is strongly recommended prior to beginning the Paramedic Classes.

IV. REQUIRED TEXTBOOK:

Nancy Caroline’s Emergency Care in the Streets Premier Package
ISBN-13 9781284038316

- BIBLIOGRAPHY:

Once the online account is created the above book will be used throughout the series. Supplemental books will be introduced as recommended or required throughout the series of courses. The above is the only requirement for PSM 101.
V. COURSE OBJECTIVES:

Each student will:

1. Explain how pharmacology relates to paramedic clinical practice.
2. Describe the regulatory measures affecting medications administered in the pre hospital setting.
3. Outline reliable sources of medication information available to paramedics.
4. Discuss requirements for medication storage, security, and accountability.
5. Describe the pharmacokinetic and pharmacodynamic properties of medications in general as well as those routinely administered by paramedics.
6. Identify situations where medication effects will be altered by the age, sex, weight, and other characteristics of a particular patient.
7. Present steps to reduce the incidence of medication errors and limit the severity of harmful effects associated with medication administration.
8. Select the optimal medication and method of medication administration for patients with a particular clinical condition or situation.
9. Discuss the prevention, recognition, and management of adverse medication reactions.
10. Describe specific medications used by paramedics in the pre hospital setting.
11. List notable classes of medications that may be taken by patients in the pre hospital setting.
12. Explain the “six rights” of medication administration and describe how each one relates to EMS.
13. Describe the role of medical direction in medication administration and explain the difference between direct orders (online) and standing orders (off-line).
14. Explain why determining what prescription and over-the-counter (OTC) medications a patient is taking is a critical aspect of patient assessment during an emergency.
15. Discuss the circumstances surrounding the administration of medication, including patient-assisted medication and paramedic-administered medication.
16. Discuss the advantages, disadvantages, and techniques for performing intravenous (IV) therapy.
17. Describe complications that can occur as a result of IV therapy.
18. Describe special considerations when performing IV therapy on a pediatric or geriatric patient.
19. Discuss the advantages, disadvantages, and techniques for establishing an intraosseous (IO) IV line.
20. Discuss the systems of weights and measures used when administering medication.
21. Explain principles of drug dose calculations, including desired dose, concentration on hand, volume on hand, volume to administer, and IV drip rate.
22. Discuss the advantages, disadvantages, and techniques for administering a medication orally.
23. Discuss the advantages, disadvantages, and techniques for administering a medication subcutaneously.
24. Discuss the advantages, disadvantages, and techniques for administering a medication intramuscularly.
25. Discuss the advantages, disadvantages, and techniques for administering a medication sublingually.
26. Discuss the advantages, disadvantages, and techniques for administering a medication intranasally.
27. Discuss the advantages, disadvantages, and techniques for administering a medication via the IV route.
28. Discuss the advantages, disadvantages, and techniques for administering a medication via the IO route.
29. Describe how drugs are classified
30. Use appropriate terminology related to pharmacology
31. List the components of a drug profile
32. Identify airway management medications used by the paramedic, including indications,
    contraindications, dosages, adverse reactions and side effects, and interactions.
33. Identify respiratory medications used by the paramedic, including indications, contraindications,
    dosages, adverse reactions and side effects, and interactions.
34. Identify cardiovascular system medications used by the paramedic, including indications,
    contraindications, dosages, adverse reactions and side effects, and interactions.
35. Identify medications for neurologic conditions that are used by the paramedic, including indications,
    contraindications, dosages, adverse reactions and side effects, and interactions.
36. Identify medications affecting the gastrointestinal system that are used by the paramedic, including
    indications, contraindications, dosages, adverse reactions and side effects, and interactions.
37. Identify any miscellaneous medications that are used by the paramedic, including indications,
    contraindications, dosages, adverse reactions and side effects, and interactions.
38. Give the generic and trade names, actions, indications, contraindications, routes of administration, side
    effects, interactions, and doses of medications and intravenous fluids that may be administered by the
    paramedic as dictated by state protocols and local medical direction.
39. Identify the components of the patient assessment process and the most important determination made
    by the paramedic—whether the patient is sick versus not sick.
40. Describe how to determine the mechanism of injury (MOI) or nature of illness (NOI) at an emergency
    and the importance of differentiating trauma patients from medical patients.
41. Discuss some of the possible hazards that may be present at an emergency scene, ways to recognize
    them, and precautions to protect personal safety.
42. List the minimum standard precautions that should be followed and personal protective equipment that
    should be worn at an emergency scene, including examples of when additional precautions would be
    appropriate.
43. Describe the principal goals of the primary assessment process: to identify and treat life threats and to
determine whether immediate transport is required.
44. Explain the process of forming a general impression of a patient as part of the primary assessment and the reasons why this step is critical to patient management.

45. Describe the assessment of airway status in patients who are responsive and unresponsive, and give examples of possible signs and causes of airway obstruction in each case as well as the appropriate response by the paramedic.

46. Describe the assessment of a patient’s breathing status, including the key information the paramedic must obtain during this process and the care required for patients who have adequate and inadequate breathing.

47. Describe the assessment of a patient’s circulatory status, including the different methods for obtaining a pulse and appropriate management depending on the patient’s status.

48. Describe the assessment of a patient’s skin color, temperature, and condition, providing examples of both normal and abnormal findings and the information this provides related to the patient’s status.

49. Explain the process for determining the priority of patient care and transport at an emergency scene, and give examples of conditions that necessitate immediate transport.

50. Discuss the process of obtaining a history, including its purpose and the initial approach to a patient.

51. Describe examples of different techniques a paramedic may use to obtain full and accurate information from patients during the history-taking process.

52. Identify the elements of the history to be obtained from responsive medical patients, from family or bystanders in the case of unresponsive medical patients, and with trauma patients.

53. Recognize which aspects of the various body systems should be covered during the history-taking process.

54. Be able to apply clinical reasoning based on the primary assessment and history-taking results to the patient’s unique case.

55. Discuss different challenges a paramedic may face when obtaining a patient history, including collection of information on sensitive topics, and strategies a paramedic may use to facilitate each situation.

56. Appreciate the unique challenges that arise with history taking with pediatric and geriatric patients.

57. Explain the purpose of performing a secondary assessment, the various assessment techniques, and equipment used in the secondary assessment.

58. Describe normal and abnormal types of lung sounds that may be heard during auscultation.

59. Explain general (systemic) conditions considered during the secondary assessment, and then give examples by body system of what the secondary assessment should include based on a patient’s chief complaint.

60. Describe the devices that are used for monitoring a patient’s condition during both the secondary assessment and reassessment, including continuous and 12-lead ECG monitoring, carbon dioxide monitoring, and basic blood chemistry.
61. Explain the importance of performing a reassessment of the patient, including reassessment of the patient’s mental status and ABCs as well as reassessment of any interventions applied and transport priority.

**Skills Objectives**

1. Demonstrate the techniques for assessing a patient’s airway, and correctly obtain information related to respiratory rate, rhythm, quality/character of breathing, and depth of breathing.
2. Demonstrate how to assess a patient’s circulation by evaluating pulses and assessing the skin color and temperature.
3. Demonstrate how to perform a rapid exam.
4. Demonstrate how to evaluate a patient’s orientation and document his or her status correctly.
5. Demonstrate how to perform percussion as an assessment technique.
6. Demonstrate how to perform a full-body exam for patients with potentially serious—and potentially hidden—injuries.
7. Demonstrate how to obtain a patient’s orthostatic vital signs to assess the extent of any internal bleeding.
8. Demonstrate how to examine a patient’s head.
9. Demonstrate how to perform a general eye examination.
10. Demonstrate how to perform an eye examination with an ophthalmoscope.
11. Demonstrate how to perform an ear examination with an otoscope.
12. Demonstrate how to examine a patient’s neck for injury.
13. Demonstrate how to examine a patient’s chest, including auscultation of lung fields.
14. Demonstrate how to auscultate heart sounds.
15. Demonstrate how to examine a patient’s abdomen, including use of the techniques of inspection, auscultation, percussion, and palpation.
16. Demonstrate how to examine a patient’s musculoskeletal system.
17. Demonstrate how to examine a patient’s peripheral vascular system, including both the upper and lower extremities.
18. Demonstrate how to examine a patient’s spine for abnormalities, including use of palpation and range-of-motion evaluation.
19. Demonstrate how to perform a neurologic examination, including use of the COASTMAP mnemonic and the AVPU scale to test for patient responsiveness
20. Demonstrate how to evaluate deep tendon reflexes and score the patient’s responses.
21. Demonstrate the process a paramedic should follow when following the six rights of medication administration
22. Demonstrate how to spike an IV bag.
23. Demonstrate how to obtain vascular access.
24. Demonstrate how to gain IO access.
25. Demonstrate how to administer oral medication to a patient.
26. Demonstrate how to administer medication via a gastric tube.
27. Demonstrate how to draw medication from an ampule.
28. Demonstrate how to draw medication from a vial.
29. Demonstrate how to administer a subcutaneous medication to a patient.
30. Demonstrate how to administer an intramuscular medication to a patient.
31. Demonstrate how to administer a medication via the IV bolus route.
32. Demonstrate how to perform an IO infusion.
33. Demonstrate how to administer a sublingual medication to a patient.
34. Demonstrate how to administer an intranasal medication to a patient.
35. Demonstrate how to administer a medication via inhalation to a patient.
36. Demonstrate how to assist a patient with a metered-dose inhaler (MDI).
37. Demonstrate how to assist a patient with a small-volume nebulizer.