

**MIAMI DADE COLLEGE
MEDICAL CENTER CAMPUS
SCHOOL OF HEALTH TECHNOLOGIES**

**Department of Emergency Medical
Services**

**COURSE OUTLINE
PARAMEDIC LABORATORY I
EMS 2601L – EMERGENCY MEDICAL
TECHNICIAN – PARAMEDIC**

MODULE 1: PREPARATORY

MODULE 2: AIRWAY

MODULE 3: PATIENT ASSESSMENT

MODULE 4: TRAUMA

EMS 2601L: PARAMEDIC LABORATORY I

COURSE DESCRIPTION:

EMS 2601L is designed to reinforce concepts and skills learned at the EMT level and to integrate this knowledge with beginning advanced life support concepts and skills. The laboratory exercises include a review of skills related to patient assessment, airway management, venipuncture/intravenous therapy, pharmacology and administration techniques, and trauma management. This course includes Modules 1- 4 of the 1998 DOT National Standard Curriculum for Paramedic Programs. Co-requisite: EMS 2601, EMS 2664

COURSE OFFERING:

Shift Class:

Fall Semester:	Day: "B" Shifts	TIME: 8:00am – 4:00pm	ROOM: TBA
Spr Semester:	Day: "C" Shifts	TIME: 8:00am – 4:00pm	ROOM: TBA
Sum Semester:	Day: "A" Shifts	TIME: 8:00am – 4:00pm	ROOM: TBA

Evening Class:

Saturdays:	TIME: 8:00am – 4:00pm	ROOM: TBA
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PREREQUISITE COURSES: EMS 1119, EMS 1119L, EMS 1431, BSC 2085, BSC 2085L

CO-REQUISITE COURSES: EMS 2601, EMS 2664

REQUIRED TEXTS:

Nancy Caroline's Emergency Care in the Streets cd included 6th ed; Jones and Bartlett

Nancy Caroline's Emergency Care in the Streets 6th ed workbook; Jones and Bartlett

Miami Dade College Paramedic Laboratory Packet

RECOMMENDED:

Advanced Cardiac Life Support provider manual

Comprehensive Guide to Prehospital Skills, Butman, et. al.

COURSE COORDINATOR: MARIO ALEM

OFFICE: 2210

OFFICE PHONE: 305-237-4443

COURSE EVALUATION:

Your final course grade will be based on the following criteria:*

Competency 1:	7.5% of total grade -	Endotracheal Intubation
Competency 2:	7.5% of total grade -	Intravenous Techniques
Competency 3:	15% of total grade -	Medication Administration
Competency 4:	35% of total grade -	Pt. Assessment (Trauma)
Competency 5:	<u>35% of total grade -</u> 100%	Pt. Assessment (Medical)

You must successfully complete competency 1, 2 and 3 with a grade of 80% or greater in order to participate in Competencies 4 and 5 - Patient Assessment. In the event a student fails either competency 1, 2 and/or 3, remediation will be provided until the competencies are satisfactorily performed. Remediation will be provided during tutorial sessions. **It is the student's responsibility to attend the tutorial session and successfully complete these competencies. The student must be signed off on the remediated competencies and submit the documentation on the student's following scheduled lab day.**

If the student is not successful in the remediation of a competency, the student will not be permitted to participate in competency 4 and 5 and will not receive a passing grade for EMS 2601L.

***The course evaluation criteria for EMS 2601L – Paramedic Laboratory I is subjected to change at the beginning of the semester. Students enrolled in this course will receive the new criteria, in writing, prior to the first competency test.**

COURSE GRADING SCALE:

A = 100 - 94

B = 93 - 87

C = 86 - 80

F = 79 – below

ACCESS SERVICES

Students with documented disabilities should contact the campus ACCESS office in advance for information on appropriate policies and procedures for obtaining assistance. No retroactive accommodations can be provided. The ACCESS office is located in room # 1345-1 at 305 237-4048. Additional information is available at <http://www.mdc.edu/medical/student-services/access>

SUGGESTIONS FOR SUCCESSFULLY COMPLETING THIS COURSE

- Your instructors are here to help you succeed. Feel free to stop by the office or call. Keep the line of communication open.
- Class begins promptly on time. You should arrive at class about ten minutes before it begins. This will give you time to settle in and talk before class begins. Please do not arrive late. It is distracting to everyone.
- If you will be unavoidably late or absent, please call the course coordinator (as a courtesy) as soon as you know.
- There will be a good deal of practice/hands-on time during this class. Please ask questions, discuss and participate. Your time is valuable. It will not do you any good to come to class and not participate.
- Look over the course outline and course schedule before each class. This will allow you to focus your study time in the most valuable area.
- Read the assigned pages BEFORE class. This will allow you to participate in class and ask any questions about information that is unclear.
- READ and STUDY the articles that you receive as handouts in class. This information will be on tests and quizzes.
- If you feel you are not doing as well as you wish to, please speak with your instructors and course coordinator. Your course coordinator can make arrangements to schedule a tutor to assist you.
- Treat everyone as you would like him or her to treat you. This includes students, instructors, staff and administrators. Actually it should include everyone you meet. Common courtesy goes a long way...in class as well as in life.
- Realize that this outline of objectives should serve as a guide to the major topics the class will cover. It is by no means an exhaustive list of every point you need to know.

EMS 2601L – PARAMEDIC LABORATORY I
TABLE OF CONTENT

<u>DATE</u>	<u>MODULE NUMBER</u>	<u>CONTENT</u>
_____	1.1	The Well-Being of the Paramedic
_____	1.2	Illness and Injury Prevention
_____	1.3	Venous Access and Medication Administration
_____	2.1	Airway Management and Ventilation
_____	3.1	Techniques of Physical Examination
_____	3.2	Patient Assessment
_____	3.3	Communications
_____	4.1	Hemorrhage and Shock
_____	4.2	Soft Tissue Trauma
_____	4.3	Burns
_____	4.4	Spinal Trauma
_____	4.5	Thoracic Trauma
_____	4.6	Abdominal Trauma
_____	4.7	Musculoskeletal Trauma

MODULE 1 - PREPARATORY

SECTION 1.1: THE WELL-BEING OF THE PARAMEDIC

GENERAL OBJECTIVE:

At the completion of this unit, the paramedic student will understand and value the importance of personal wellness in EMS and serve as a healthy role model for peers.

SPECIFIC OBJECTIVES:

- 1-1.1 Demonstrate safe methods for lifting and moving patients in emergency and non-emergency situations.
- 1-1.2 Demonstrate the proper procedures to take for personal protection from disease.

SECTION 1.2: ILLNESS AND INJURY PREVENTION

GENERAL OBJECTIVE:

At the completion of this unit, the paramedic student will be able to integrate the implementation of primary injury prevention activities as an effective way to reduce death, disabilities and health care costs.

SPECIFIC OBJECTIVES:

- 1-2.1 Demonstrate the use of protective equipment appropriate to the environment and scene.
- 1-2.2 Identify protective equipment associated with EMS situations.

SECTION 1.3: VENOUS ACCESS AND MEDICATION ADMINISTRATION

GENERAL OBJECTIVE:

At the completion of this unit, the paramedic student will be able to safely and precisely access the venous circulation and administer medications.

SPECIFIC OBJECTIVES:

- 1-3.1 Use universal precautions and body substance isolation (BSI) procedures during medication administration.
- 1-3.2 Demonstrate cannulation of peripheral or external jugular veins.
- 1-3.3 Demonstrate intraosseous needle placement and infusion.
- 1-3.4 Demonstrate clean technique during medication administration.
- 1-3.5 Demonstrate administration of oral medications.
- 1-3.6 Demonstrate administration of medications by the inhalation route.
- 1-3.7 Demonstrate administration of medications by the gastric tube.
- 1-3.8 Demonstrate rectal administration of medications.
- 1-3.9 Demonstrate preparation and administration of parenteral medications.
- 1-3.10 Demonstrate preparation and techniques for obtaining a blood sample.
- 1-3.11 Perfect disposal of contaminated items and sharps.

MODULE 2 - AIRWAY

SECTION 2.1: AIRWAY MANAGEMENT AND VENTILATION

GENERAL OBJECTIVE:

At the completion of this unit, the paramedic student will be able to establish and/or maintain a patent airway, oxygenate, and ventilate a patient.

SPECIFIC OBJECTIVES:

- 2-1.1 Perform body substance isolation (BSI) procedures during basic airway management, advanced airway management, and ventilation.
- 2-1.2 Perform pulse oximetry.
- 2-1.3 Perform end-tidal CO₂ detection.
- 2-1.4 Perform peak expiratory flow testing.
- 2-1.5 Perform manual airway maneuvers.
- 2-1.6 Perform manual airway maneuvers for pediatric patients.
- 2-1.7 Perform the Sellick maneuver (cricoid pressure).
- 2-1.8 Perform complete airway obstruction maneuvers.
- 2-1.9 Demonstrate suctioning the upper airway by selecting a suction device, catheter and technique.
- 2-1.10 Perform tracheobronchial suctioning in the intubated patient by selecting a suction device, catheter and technique.
- 2-1.11 Demonstrate insertion of a nasogastric tube.
- 2-1.12 Demonstrate insertion of an orogastric tube.
- 2-1.13 Perform gastric decompression by selecting a suction device, catheter and technique.
- 2-1.14 Demonstrate insertion of an oropharyngeal airway.
- 2-1.15 Demonstrate insertion of a nasopharyngeal airway.
- 2-1.16 Demonstrate ventilating a patient using various techniques.
- 2-1.17 Ventilate a pediatric patient using the one and two person techniques.
- 2-1.18 Perform ventilation with a bag-valve-mask with an in-line small-volume nebulizer.
- 2-1.19 Perform oxygen delivery from a cylinder and regulator with an oxygen delivery device.
- 2-1.20 Perform oxygen delivery with an oxygen humidifier.
- 2-1.21 Deliver supplemental oxygen to a breathing patient using the following devices: nasal cannula, simple face mask, partial rebreather mask, non-rebreather mask, and venturi mask
- 2-1.22 Perform stoma suctioning.
- 2-1.23 Perform retrieval of foreign bodies from the upper airway.
- 2-1.24 Perform assessment to confirm correct placement of the endotracheal tube.
- 2-1.25 Intubate the trachea by the following methods.
- 2-1.26 Adequately secure an endotracheal tube.
- 2-1.27 Perform endotracheal intubation in the pediatric patient.
- 2-1.28 Perform transtracheal catheter ventilation (needle cricothyrotomy).

- 2-1.29 Perform extubation.
- 2-1.30 Perform replacement of a tracheostomy tube through a stoma.

MODULE 3: PATIENT ASSESSMENT

SECTION 3.1: TECHNIQUES OF PHYSICAL EXAMINATION

GENERAL OBJECTIVE:

At the completion of this unit, the paramedic student will be able to explain the pathophysiological significance of physical exam findings.

SPECIFIC OBJECTIVES:

- 3-1.1 Demonstrate the examination of skin, hair and nails.
- 3-1.2 Demonstrate the examination of the head and neck.
- 3-1.3 Demonstrate the examination of the eyes.
- 3-1.4 Demonstrate the examination of the ears.
- 3-1.5 Demonstrate the assessment of visual acuity.
- 3-1.6 Demonstrate the examination of the nose.
- 3-1.7 Demonstrate the examination of the mouth and pharynx.
- 3-1.8 Demonstrate the examination of the neck.
- 3-1.9 Demonstrate the examination of the thorax and ventilation.
- 3-1.10 Demonstrate the examination of the posterior chest.
- 3-1.11 Demonstrate auscultation of the chest.
- 3-1.12 Demonstrate percussion of the chest.
- 3-1.13 Demonstrate the examination of the anterior chest.
- 3-1.14 Demonstrate special examination techniques related to the assessment of the chest.
- 3-1.15 Demonstrate the examination of the arterial pulse including location, rate, rhythm, and amplitude.
- 3-1.16 Demonstrate the assessment of jugular venous pressure and pulsations.
- 3-1.17 Demonstrate the examination of the heart and blood vessels.
- 3-1.18 Demonstrate special examination techniques of the cardiovascular examination.
- 3-1.19 Demonstrate the examination of the abdomen.
- 3-1.20 Demonstrate auscultation of the abdomen.
- 3-1.21 Demonstrate the external visual examination of the female genitalia.
- 3-1.22 Demonstrate the examination of the male genitalia.
- 3-1.23 Demonstrate the examination of the peripheral vascular system.
- 3-1.24 Demonstrate the examination of the musculoskeletal system.
- 3-1.25 Demonstrate the examination of the nervous system.

SECTION 3.2: PATIENT ASSESSMENT

GENERAL OBJECTIVE:

At the completion of this unit, the paramedic student will be able to integrate the principles of history taking and techniques of physical exam to perform a patient assessment.

SPECIFIC OBJECTIVES:

- 3-2.1 Observe various scenarios and identify potential hazards.
- 3-2.2 Demonstrate the scene-size-up.
- 3-2.3 Demonstrate the techniques for assessing mental status.
- 3-2.4 Demonstrate the techniques for assessing the airway.
- 3-2.5 Demonstrate the techniques for assessing if the patient is breathing.
- 3-2.6 Demonstrate the techniques for assessing if the patient has a pulse.
- 3-2.7 Demonstrate the techniques for assessing the patient for external bleeding.
- 3-2.8 Demonstrate the techniques for assessing the patient's skin color, temperature, and condition.
- 3-2.9 Demonstrate the ability to prioritize patients.
- 3-2.10 Using the techniques of examination, demonstrate the assessment of a medical patient.
- 3-2.11 Demonstrate the patient care skills that should be used to assist with a patient who is responsive with no known history.
- 3-2.12 Demonstrate the patient care skills that should be used to assist with a patient who is unresponsive or has an altered mental status.
- 3-2.13 Perform a rapid medical assessment.
- 3-2.14 Perform a focused history and physical exam of the medical patient.
- 3-2.15 Using the techniques of physical examination, demonstrate the assessment of a trauma patient.
- 3-2.16 Demonstrate the rapid trauma assessment used to assess a patient based on mechanism of injury.
- 3-2.17 Perform a focused history and physical exam on a non-critically injured pt.
- 3-2.18 Perform a focused history and physical exam on a patient with life-threatening injuries.
- 3-2.19 Perform a detailed physical examination.
- 3-2.20 Demonstrate the skills involved in performing the on-going assessment.

SECTION 3.3: COMMUNICATIONS

GENERAL OBJECTIVE:

At the completion of this unit, the paramedic student will be able to follow an accepted format for dissemination of patient information in verbal form, either in person or via radio.

SPEICFIC OBJECTIVES:

- 3-3.1 Demonstrate the ability to use the local dispatch communications system.
- 3-3.2 Demonstrate the ability to use a radio.
- 3-3.3 Demonstrate the ability to use the biotelemetry equipment used locally.

MODULE 4: TRAUMA

SECTION 4.1: HEMORRHAGE AND SHOCK

GENERAL OBJECTIVE:

At the completion of this unit, the paramedic student will be able to integrate pathophysiological principles and assessment findings to formulate a field impression and implement the treatment plan for the patient with shock or hemorrhage.

SPECIFIC OBJECTIVES:

- 4-1.1 Demonstrate the assessment of a patient with signs and symptoms of hemorrhagic shock.
- 4-1.2 Demonstrate the management of a patient with signs and symptoms of hemorrhagic shock.
- 4-1.3 Demonstrate the assessment of a patient with signs and symptoms of compensated hemorrhagic shock.
- 4-1.4 Demonstrate the management of a patient with signs and symptoms of compensated hemorrhagic shock.
- 4-1.5 Demonstrate the assessment of a patient with signs and symptoms of decompensated hemorrhagic shock.
- 4-1.6 Demonstrate the management of a patient with signs and symptoms of decompensated hemorrhagic shock.
- 4-1.7 Demonstrate the assessment of a patient with signs and symptoms of external hemorrhage.
- 4-1.8 Demonstrate the management of a patient with signs and symptoms of external hemorrhage.
- 4-1.9 Demonstrate the assessment of a patient with signs and symptoms of internal hemorrhage.
- 4-1.10 Demonstrate the management of a patient with signs and symptoms of internal hemorrhage.

SECTION 4.2: SOFT TISSUE TRAUMA

GENERAL OBJECTIVE:

At the completion of this unit, the paramedic student will be able to integrate pathophysiological principles and assessment findings to formulate a field impression and implement the treatment plan for the patient with soft tissue trauma.

SPECIFIC OBJECTIVES:

- 4-2.1 Demonstrate the assessment and management of a patient with signs and symptoms of soft tissue injury, including:
- A. Contusion
 - B. Hematoma
 - C. Crushing
 - D. Abrasion
 - E. Laceration
 - F. Avulsion
 - G. Amputation
 - H. Impaled object
 - I. Penetration/ puncture
 - J. Blast

SECTION 4.3: BURNS

GENERAL OBJECTIVE:

At the completion of this unit, the paramedic student will be able to integrate pathophysiological principles and the assessment findings to formulate a field impression and implement the management plan for the patient with a burn injury.

SPECIFIC OBJECTIVES:

- 4-3.1 Take body substance isolation procedures during assessment and management of patients with a burn injury.
- 4-3.2 Perform assessment of a patient with a burn injury.
- 4-3.3 Perform management of a thermal burn injury, including airway and ventilation, circulation, pharmacological, non-pharmacological, transport considerations, psychological support/ communication strategies, and other management described by local protocol.
- 4-3.4 Perform management of an inhalation burn injury, including airway and ventilation, circulation, pharmacological, non-pharmacological, transport considerations, psychological support/ communication strategies, and other management described by local protocol.
- 4-3.5 Perform management of a chemical burn injury, including airway and ventilation,
- 4-3.6 circulation, pharmacological, non-pharmacological, transport considerations, psychological support/ communication strategies, and other management described by local protocol.
- 4-3.6 Perform management of an electrical burn injury, including airway and ventilation, circulation, pharmacological, non-pharmacological, transport considerations, psychological support/ communication strategies, and other management described by local protocol.
- 4-3.7 Perform management of a radiation exposure, including airway and ventilation, circulation, pharmacological, non-pharmacological, transport considerations, psychological support/ communication strategies, and other management described by local protocol.

SECTION 4.4: SPINAL TRAUMA

GENERAL OBJECTIVE:

At the completion of this unit, the paramedic student will be able to integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient with a suspected spinal injury.

SPECIFIC OBJECTIVES:

- 4-6.1 Demonstrate a clinical assessment to determine the proper management modality for a patient with a suspected traumatic spinal injury.
- 4-6.2 Demonstrate a clinical assessment to determine the proper management modality for a patient with a suspected non-traumatic spinal injury.
- 4-6.3 Demonstrate immobilization of the urgent and non-urgent patient with assessment findings of spinal injury from the following presentations:
 - A. Supine
 - B. Prone
 - C. Semi-prone
 - D. Sitting
 - E. Standing
- 4-6.4 Demonstrate documentation of suspected spinal cord injury to include:
 - A. General area of spinal cord involved
 - B. Sensation
 - C. Dermatomes
 - D. Motor function
 - E. Area(s) of weakness
- 4-6.5 Demonstrate preferred methods for stabilization of a helmet from a potentially spine injured patient.
- 4-6.6 Demonstrate helmet removal techniques.
- 4-6.7 Demonstrate alternative methods for stabilization of a helmet from a potentially spine injured patient.
- 4-6.8 Demonstrate documentation of assessment before spinal immobilization.
- 4-6.9 Demonstrate documentation of assessment during spinal immobilization.
- 4-6.10 Demonstrate documentation of assessment after spinal immobilization.

SECTION 4.5: THORACIC TRAUMA

GENERAL OBJECTIVE:

At the completion of this unit, the paramedic student will be able to integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for a patient with a thoracic injury.

SPECIFIC OBJECTIVES:

- 4-5.1 Demonstrate a clinical assessment for a patient with suspected thoracic trauma.
- 4-5.2 Demonstrate the following techniques of management for thoracic injuries:
 - a. Needle decompression
 - b. Fracture stabilization
 - c. Elective intubation
 - d. ECG monitoring
 - e. Oxygenation and ventilation

SECTION 4.6: ABDOMINAL TRAUMA

GENERAL OBJECTIVE:

At the completion of this unit, the paramedic student will be able to integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient with suspected abdominal trauma.

SPECIFIC OBJECTIVES:

- 4-6.1 Demonstrate a clinical assessment to determine the proper treatment plan for a patient with suspected abdominal trauma.
- 4-6.2 Demonstrate the proper use of PASG in a patient with suspected abdominal trauma.
- 4-6.3 Demonstrate the proper use of PASG in a patient with suspected pelvic fracture.

SECTION 4.7: MUSCULOSKELETAL TRAUMA

GENERAL OBJECTIVE:

At the completion of this unit, the paramedic student will be able to integrate pathophysiological principles and the assessment findings to formulate a field impression and implement the treatment plan for the patient with a musculoskeletal injury.

SPECIFIC OBJECTIVES:

- 4-7.1 Demonstrate a clinical assessment to determine the proper treatment plan for a patient with a suspected musculoskeletal injury.
- 4-7.2 Demonstrate the proper use of fixation, soft and traction splints for a patient with a suspected fracture.