



Medical Emergencies (EMSP 2434)

Credit

- 4 semester credit hours (3 hours lecture, 2 hours lab)

Prerequisite

- EMT-Basic certification

Co-requisite

- EMSP 1173
- EMSP 2137
- EMSP 2243
- EMSP 2330
- EMSP 2265

Course Description

Knowledge and skills in the assessment and management of patients with medical emergencies, including medical overview, neurology, gastroenterology, immunology, pulmonology, urology, hematology, endocrinology, toxicology, and other related topics.

Required Textbook

- EMS Program Student Handbook
- Nancy Caroline's Emergency Care in the Streets 8th
 - ISBN 13: 9781284137187

Course Objectives

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

- Integrate assessment findings with principles of epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment/disposition plan for a patient with a medical complaint.
- Complex depth, comprehensive breadth of pathophysiology, assessment, and management of medical complaints to include;
 - Transport mode
 - Destination decisions
- Complex depth, comprehensive breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of neurological disorders to include;
 - Stroke/intracranial hemorrhage/transient ischemic attack
 - Seizure
 - Status epilepticus
 - Headache
- Fundamental depth, foundational breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of neurological disorders to include;

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Course Syllabi

- Dementia
- Neoplasms
- Demyelinating disorders
- Parkinson's disease
- Cranial nerve disorders
- Movement disorders
- Neurologic inflammation/infection
- Spinal cord compression
- Hydrocephalus
- Wernicke's encephalopathy
- Complex depth, comprehensive breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of abdominal and gastrointestinal disorders to include:
 - Acute and chronic gastrointestinal hemorrhage
 - Liver disorders
 - Peritonitis
 - Ulcerative disease
- Fundamental depth, foundational breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of abdominal and gastrointestinal disorders to include:
 - Irritable bowel syndrome
 - Inflammatory disorders
 - Pancreatitis
 - Bowel obstructions
 - Hernias
 - Infectious disorders
 - Gall bladder and biliary tract disorders
- Simple depth, simple breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of abdominal and gastrointestinal disorders to include:
 - Rectal abscess
 - Rectal foreign body obstructions
 - Mesenteric ischemia
- Complex depth, comprehensive breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of immunology to include:
 - Hypersensitivity
 - Allergic and anaphylactic reactions
 - Anaphylactic reaction
- Fundamental depth, foundational breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of immunology to include:
 - Collagen vascular disease
 - Transplant related problems

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- Complex depth, comprehensive breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of infectious diseases to include;
 - HIV-related diseases
 - Hepatitis
 - Pneumonia
 - Meningococcal meningitis
- Fundamental depth, foundational breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of infectious diseases to include;
 - Tuberculosis
 - Tetanus
 - Viral diseases
 - Sexually transmitted diseases
 - Gastroenteritis
 - Fungal infections
 - Rabies
 - Scabies and lice
 - Lyme disease
 - Rocky Mountain Spotted Fever
 - Antibiotic resistant infections
- Complex depth, comprehensive breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of endocrine disorders to include;
 - Acute diabetic emergencies
 - Diabetes
- Fundamental depth, foundational breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of endocrine disorders to include;
 - Adrenal disease
 - Pituitary and thyroid disorders
- Complex depth, comprehensive breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of psychiatric disorders to include;
 - Acute psychosis
 - Agitated delirium
- Fundamental depth, foundational breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of psychiatric disorders to include;
 - Cognitive disorders
 - Thought disorders
 - Mood disorders
 - Neurotic disorders
 - Substance-related disorders/addictive behavior
 - Somatoform disorders
 - Factitious disorders

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- Personality disorders
- Patterns of violence/abuse/neglect
- Organic psychoses
- Complex depth, comprehensive breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of cardiovascular diseases to include;
 - Acute coronary syndromes
 - Angina pectoris
 - Myocardial infarction
 - Heart failure
 - Non-traumatic cardiac tamponade
 - Hypertensive emergencies
 - Cardiogenic shock
 - Vascular disorders
 - Abdominal aortic aneurysm
 - Arterial occlusions
 - Venous thrombosis
 - Aortic aneurysm/dissection
 - Thromboembolism
 - Cardiac rhythm disturbances
- Fundamental depth, foundational breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of cardiovascular disease to include;
 - Infectious diseases of the heart
 - Endocarditis
 - Pericarditis
 - Congenital abnormalities
- Complex depth, comprehensive breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of toxicology to include;
 - Cholinergic
 - Anticholinergics
 - Sympathomimetic
 - Sedative/hypnotics
 - Opiates
 - Alcohol intoxication and withdrawal
 - Over-the counter and prescription medications
 - Carbon monoxide
 - Illegal drugs
 - Herbal preparations
- Complex depth, comprehensive breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of respiratory disorders to include;
 - Acute upper airway infections
 - Spontaneous pneumothorax
 - Obstructive/restrictive lung diseases

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- Pulmonary infections
- Fundamental depth, foundational breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of respiratory disorders to include;
 - Neoplasms
 - Pertussis
 - Cystic fibrosis
- Complex depth, comprehensive breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of hematology disorders to include;
 - Sickle cell disease
- Fundamental depth, foundational breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of hematology disorders to include;
 - Blood transfusion complications
 - Hemostatic disorders
 - Lymphomas
 - Red blood cell disorders
 - White blood cell disorders
 - Coagulopathies
- Complex depth, comprehensive breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of genitourinary/renal disorders to include;
 - Complications of
 - Acute renal failure
 - Chronic renal failure
 - Dialysis
- Fundamental depth, foundational breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of genitourinary/renal disorders to include;
 - Acid base disturbances
 - Fluid and electrolytes
 - Infection
 - Male genital tract conditions
- Complex depth, comprehensive breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of gynecology disorders to include;
 - Vaginal bleeding
 - Sexual assault
- Fundamental depth, foundational breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of gynecology disorders to include;
 - Infections
 - Pelvic inflammatory disease
 - Ovarian cysts
 - Dysfunctional uterine bleeding

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- Vaginal foreign body
- Fundamental depth, foundational breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of non-traumatic musculoskeletal disorders to include;
 - Disorders of the spine
 - Joint abnormalities
 - Muscle abnormalities
 - Overuse syndrome
- Fundamental depth, foundational breadth of anatomy, physiology, epidemiology, pathophysiology, psychosocial impact, presentations, prognosis, and management of diseases of the eyes, ears, nose, and throat to include;
 - Common or major diseases of the eyes, ears, nose and throat including nose bleed.

Course Outline

A. Welcome to LIT EMS Program

1. Introduction of EMS Staff, Instructors and students
2. EMS program policies

B. Respiratory Emergencies

1. Anatomy and Physiology Review
2. Patient Assessment
3. Emergency Medical Care
4. Pathophysiology, Assessment, and Management of Obstructive Upper Airway Diseases
5. Pathophysiology, Assessment, and Management of Obstructive Lower Airway Diseases
6. Pathophysiology, Assessment, and Management of Common Respiratory Conditions
7. Pathophysiology, Assessment, and Management of Conditions Outside the Lung Parenchyma

C. Neurological Emergencies

1. Anatomy and Physiology Review
2. Patient Assessment
3. Standard Care Guidelines for the Neurologic Patient
4. Pathophysiology, Assessment, and Management of Common Neurologic Emergencies
5. Pathophysiology, Assessment, and Management of Demyelinating, Degenerating, and Motor Neuron Disorders

D. Diseases of the Eyes, Ears, Nose, and Throat

1. The Eye
2. The Ear
3. The Nose

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4. The Throat
- E. Abdominal and Gastrointestinal Emergencies
1. Anatomy and Physiology Review
 2. Patient Assessment
 3. Emergency Medical Care
 4. Pathophysiology, Assessment, and Management of Specific Abdominal and Gastrointestinal Emergencies
 5. Pathophysiology, Assessment, and Management of Gastrointestinal Bleeding
 6. Pathophysiology, Assessment, and Management of Esophageal Pathologies
 7. Pathophysiology, Assessment, and Management of Acute Inflammatory Conditions
 8. Pathophysiology, Assessment, and Management of Chronic Inflammatory Conditions
 9. Pathophysiology, Assessment, and Management of Acute Infectious Conditions
 10. Pathophysiology, Assessment, and Management of Obstructive Conditions
 11. Pathophysiology, Assessment, and Management of Ischemic and Neoplastic Disorders
- F. Genitourinary and Renal Emergencies
1. Anatomy and Physiology Review
 2. Patient Assessment
 3. Emergency Medical Care
 4. Pathophysiology, Assessment, and Management of Specific Emergencies
- G. Gynecologic Emergencies
1. Anatomy and Physiology Review
 2. Patient Assessment
 3. Emergency Medical Care
 4. Pathophysiology, Assessment, and Management of Gynecologic Trauma
 5. Pathophysiology, Assessment, and Management of Specific Emergencies
- H. Endocrine Emergencies
1. Anatomy and Physiology Review
 2. Patient Assessment
 3. Emergency Medical Care
 4. Pathophysiology, Assessment, and Management of Glucose Metabolic Derangements
 5. Pathophysiology, Assessment, and Management of Other Disorders of the Pancreas
 6. Pathophysiology, Assessment, and Management of Adrenal Insufficiency
 7. Pathophysiology, Assessment, and Management of Other Adrenal Emergencies
 8. Pathophysiology, Assessment, and Management of Thyroid, Parathyroid, and Pituitary Gland Disorders
- I. Hematologic Emergencies

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1. Anatomy and Physiology Review
 2. Patient Assessment
 3. Emergency Medical Care
 4. Pathophysiology, Assessment, and Management of Specific Emergencies
- J. Immunologic Emergencies
1. Anatomy and Physiology Review
 2. Patient Assessment
 3. Emergency Medical Care
 4. Pathophysiology, Assessment, and Management of Specific Emergencies
 5. Patient Education
- K. Infectious Disease
1. Protecting The Public Health
 2. Protecting Health Care Providers
 3. Patient Assessment
 4. General Management Principles
 5. Chain of Infection
 6. Infection and Sepsis
 7. Pathophysiology, Assessment, and Management of Droplet-Transmitted Diseases
 8. Pathophysiology, Assessment, and Management of Airborne-Transmitted Disease
 9. Other Infections of the Respiratory Tract
 10. Pathophysiology, Assessment, and Management of Sexually Transmitted Diseases
 11. Fungal Skin Infections
 12. Helminths
 13. Parasitic Insects
 14. Pathophysiology, Assessment, and Management of Common Bloodborne Diseases
 15. Ebola
 16. Pathophysiology, Assessment, and Management of Enteric Diseases
 17. Pathophysiology, Assessment, and Management of Non-Bloodborne Hepatitis Viruses
 18. Pathophysiology, Assessment, and Management of Vector-borne and Zoonotic Diseases
 19. Pathophysiology, Assessment, and Management of Infection with Antibiotic-Resistant Organisms
 20. Pathophysiology, Assessment, and Management of Newly Recognized Diseases
- L. Toxicology
1. Types of Toxicologic Emergencies
 2. Poison Centers
 3. Pathophysiology
 4. Patient Assessment
 5. Emergency Medical Care

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6. Pathophysiology, Assessment, and Management of Abuse of and Overdose with Specific Substances

M. Psychiatric Emergencies

1. Definition of Behavioral Emergency
2. Prevalence
3. Medicolegal Considerations
4. Pathophysiology
5. Patient Assessment
6. Emergency Medical Care
7. Pathophysiology, Assessment, and Management of Specific Emergencies
8. Medications for Psychiatric Disorders
9. The Psychological Effect of War: Returning Combat Veterans

Grade Scale

90 – 100	A
84 – 89	B
75 – 83	C
70 – 74	D
0 – 69	F

Course Evaluation

Final grades will be calculated according to the following criteria:

Affective Evaluation	10%
Chapter Quiz	20%
Module Exam	20%
Mid-Term Exam	25%
Final Exam	25%

Course Policies

1. Computers, telephones, headphones, and any other electronic devices must be turned off while in class or used only with permission of the instructor.
2. Do not bring children to class.
3. Late assignments will be accepted on a case by case basis.
4. Tests. Students that miss a test are not allowed to make up the test. Students that miss a test will receive a grade of '0'.
5. Attendance Policy. Three absences are allowed. If a student is tardy to class or departs early two (2) times, it will be equal to one (1) absence. Each absence beyond three absences will result in a 5 point deduction from your final grade.

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6. If you wish to drop a course, the student is responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course, you will earn an 'F' in the course.
7. Additional class policies as defined by the EMS Program Student Handbook.

Technical Requirements

The latest technical requirements, including hardware, compatible browsers, operating systems, software, Java, etc. can be found online at:

[https://help.blackboard.com/en-](https://help.blackboard.com/en-us/Learn/9.1)

[us/Learn/9.1](https://help.blackboard.com/en-us/Learn/9.1) 2014 04/Student/015 Browser Support/015 Browser Support Policy A

functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of the online technology and resources.

Disabilities Statement

The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409) 880-1737 or visit the office in Student Services, Cecil Beeson Building.

Student Code of Conduct Statement

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. The *LIT Catalog and Student Handbook* may be accessed at www.lit.edu or obtained in print upon request at the Student Services Office. Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document.