

Course Code: EMS 111

Course Title: Foundations of Paramedicine

Department: Allied Health

Effective Date: Summer 2026

PCS Code: 1.2 - Occupational/Technical Instruction

CIP Code: 51.0904

Repeatability: 0

Credit Hours

Catalog Notation: 4-0-4

Credit Hour Distribution:

Lecture: 4

Lab: 0

Clinical: 0

Total: 4

General Course Information

Catalog Description

Medical terminology, introduction to pharmacology, basic anatomy and physiology essential to the role of a paramedic.

General Course Objectives

Introduction to basic principles of Medical Terminology, Pharmacology, and Anatomy and Physiology utilized in the practice of Paramedic sciences.

Minimum Placement Levels

English	Reading	Math
Placement into ENG 098	Placement into CCS 098	Placement into MAT 060

Prerequisites

Credit in EMS 110

Approval of program director or department chair

Methods of Evaluation

10-15 quizzes, comprehensive final exam.

Instructional Materials and Additional Supplies

Prehospital Emergency Pharmacology, Bledsoe, C., Brady/Pearson, current edition.

Anatomy and Physiology for Emergency Care, Martini, B. and Bledsoe, C., Prentice-Hall Inc., current edition.

Course Content

General Learning Outcomes (GLOs)

- Communication: Students will demonstrate the ability to read, write, listen, and speak effectively.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Medical Terminology	1. Define common medical terminology and medical abbreviations used in the health care field. 2. Demonstrate use of a medical dictionary. 3. Discuss the pronunciation and definitions of each term. 4. Outline the purpose and use of medical abbreviations.	8	0	0
Cells	1. Identify functions of cell and tissue structure. 2. Identify cellular structure changes due to injury or illness. 3. Identify human cell membranes. 4. Describe and define DNA and RNA. 5. Identify cellular changes due to death and dying.	8	0	0
Blood, Fluid and Electrolytes, and Hypoperfusion	1. Define fluids necessary for tissue and cell function. 2. Identify electrolytes necessary for cell and tissue function. 3. Describe acid/base balance. 4. Identify treatments to restore acid/base balance. 5. Identify the components of blood, and the processes that they perform in the body.	2	0	0
Pharmacology	1. List basic drugs used in EMS. 2. Identify classification of EMS drugs. 3. Describe proper disposal of pharmacological agents. 4. Complete 8 1/2 x 5 inch index cards for ALS medications.	2	0	0
Introduction to Medical Math	1. Demonstrate drug calculations, conversions, drip rates, and mixtures.	4	0	0
Respiratory System	1. Identify the structure and tissues of the respiratory system. 2. Describe pulmonary ventilation, normal breathing, SpO2 values, respiratory volumes, and respiratory capacities. 3. Differentiate ventilation, respiration, and oxygenation. 4. Explain the effect of CO2, pH, and O2 on the respiration rate (carbonic drive vs. hypoxic drive). 5. Identify normal and abnormal sounds commonly encountered by EMS.	8	0	0
Cardiovascular System	1. Describe the normal anatomy and physiology of the cardiovascular system. 2. Discuss the electrophysiology of the heart utilized in EKG rhythm interpretation. 3. Describe the components of blood and their properties. 4. Discuss stroke volume, cardiac output, and pulse pressures.	4	0	0
Nervous System	1. Identify and discuss the anatomy and physiology of the immune system. 2. Describe the function of the nervous systems. 3. List and assess the function of the 12 cranial nerves.	4	0	0
Immune System	1. Identify the human body defenses to disease, illness, or accidents. 2. Identify body inflammatory responses.	4	0	0

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Endocrine System	1. Describe and identify the structures of the endocrine system. 2. Discuss the complex messaging system that the endocrine system plays within normal body functions and homeostasis.	4	0	0
Gastrointestinal/Genitourinary Systems	1. Describe and identify the main structures of the gastrointestinal system. 2. Describe and identify the accessory organs of the gastrointestinal system and explain their role in digestion. 3. Describe and identify the main structures of the genitourinary system. 4. Discuss the role that the renal system plays in the processes of fluid management, pH balance, and waste elimination in the body.	4	0	0
Musculoskeletal System	1. Identify and discuss the anatomy and physiology of the musculoskeletal system. 2. Describe the role that the skeletal system plays in the body for structure, support, protection, and cell production. 3. Identify types of joints, major ligaments and tendons, and their combined role for body movement. 4. Identify and list major muscle groups. 5. Define the roles that cardiac, skeletal, and smooth muscle play within the body systems.	4	0	0
Reproductive System	1. Identify and discuss the anatomy and physiology of various male and female reproductive structures. 2. Describe the roles that hormones play in the development of secondary sexual characteristics and in the process of reproduction. 3. Describe the process of fertilization and human development from conception to delivery.	4	0	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
60	0	0