

CATALOG INFORMATION

Dept and Nbr: EMC 161

Title: PARAMEDIC THEORY I

Full Title: Paramedic Theory I

Last Reviewed: 10/9/2023

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	8.00	Lecture Scheduled	8.00	17.5	Lecture Scheduled	140.00
Minimum	8.00	Lab Scheduled	0	12	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	8.00		Contact Total	140.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 280.00

Total Student Learning Hours: 420.00

Title 5 Category: AA Degree Applicable

Grading: Grade or P/NP

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

**Catalog Description:**  
Students will acquire general paramedic didactic education and training that follows the current Department of Transportation National Emergency Services Education Standards (NEMSES) and California Code of Regulations, Title 22. Includes cognitive content associated with preparatory, anatomy and physiology, pharmacology, airway management, patient assessment, and trauma patient management.

**Prerequisites/Corequisites:**  
Course Completion of EMC 109 and EMC 114; AND Course Completion of either ANAT 1, ANAT 40 or ANAT 58; Concurrent Enrollment in EMC 161L

**Recommended Preparation:**

**Limits on Enrollment:**  
Enrollment in Paramedic Academy

**Schedule of Classes Information:**  
Description: Students will acquire general paramedic didactic education and training that follows the current Department of Transportation National Emergency Services Education Standards (NEMSES) and California Code of Regulations, Title 22. Includes cognitive content associated

with preparatory, anatomy and physiology, pharmacology, airway management, patient assessment, and trauma patient management. (Grade or P/NP)

Prerequisites/Corequisites: Course Completion of EMC 109 and EMC 114; AND Course Completion of either ANAT 1, ANAT 40 or ANAT 58; Concurrent Enrollment in EMC 161L  
Recommended:

Limits on Enrollment: Enrollment in Paramedic Academy

Transfer Credit:

Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>	Effective:	Inactive:
<b>IGETC:</b>	<b>Transfer Area</b>	Effective:	Inactive:
<b>CSU Transfer:</b>		Effective:	Inactive:
<b>UC Transfer:</b>		Effective:	Inactive:

**CID:**

**Certificate/Major Applicable:**

Both Certificate and Major Applicable

## **COURSE CONTENT**

### **Student Learning Outcomes:**

At the conclusion of this course, the student should be able to:

1. Describe the paramedic's role within an Emergency Medical Service (EMS) system.
2. Describe the relationship of anatomy and physiology as they relate to the pathophysiology of the ill and injured patient.
3. Integrate comprehensive knowledge of pharmacology to formulate a treatment plan for the ill or injured patient in the out-of-hospital setting.
4. Describe physiology and pathophysiology of shock and infectious disease and implement a comprehensive management plan in the out-of-hospital setting.
5. Integrate assessment findings with principles of epidemiology and pathophysiology to formulate a field impression for an acutely injured patient.

### **Objectives:**

At the conclusion of this course, the student should be able to:

1. Integrate comprehensive knowledge of EMS systems, the safety/well-being of the paramedic, and medical/legal and ethical issues which is intended to improve the health of EMS personnel, patients, and the community.
2. Integrate a complex depth and comprehensive breadth of knowledge of human anatomy and physiology.
3. Integrate comprehensive anatomical and medical terminology and abbreviations into the written and oral communication with colleagues and other health care professionals.
4. Integrate comprehensive knowledge of pathophysiology of major human systems.
5. Integrate comprehensive knowledge of life span development.
6. Apply fundamental knowledge of principles of public health and epidemiology including

public health emergencies, health promotion, and illness and injury prevention.

7. Integrate comprehensive knowledge of pharmacology to formulate a treatment plan intended to mitigate emergencies and improve the overall health of the patient.

8. Integrate complex knowledge of anatomy, physiology, and pathophysiology into the assessment to develop and implement a treatment plan with the goal of assuring a patent airway, adequate mechanical ventilation, and respiration for patients of all ages.

9. Integrate scene and patient assessment findings with knowledge of epidemiology and pathophysiology to form a field impression. This includes developing a list of differential diagnoses through clinical reasoning to modify the assessment and formulate a treatment plan.

10. Integrate assessment findings with principles of epidemiology and pathophysiology to formulate a field impression to implement a comprehensive treatment/disposition plan for an acutely injured patient.

11. Integrate comprehensive knowledge of causes and pathophysiology into the management of cardiac arrest and peri-arrest states.

12. Integrate a comprehensive knowledge of the causes and pathophysiology into the management of shock, respiratory failure, or arrest with an emphasis on early intervention to prevent arrest.

## **Topics and Scope:**

### **I. Preparatory**

- A. Emergency Medical Services (EMS) Systems
- B. Research
- C. Workforce safety and wellness
- D. Documentation
- E. EMS system communication
- F. Therapeutic communication
- G. Medical/Legal and ethics

### **II. Anatomy and Physiology**

- A. Medical terminology
- B. Pathophysiology

### **III. Life Span Development**

- A. Pediatric
- B. Adult
- C. Geriatric
- D. End of life issues

### **IV. Public Health**

### **V. Pharmacology**

- A. Principles of pharmacology
- B. Medication administration
- C. Emergency medications

### **VI. Airway Management, Respirations and Artificial Ventilation**

- A. Basic and advanced airway management
- B. Respiration
- C. Artificial ventilation

### **VII. Patient Assessment**

- A. Scene size-up
- B. Primary assessment
- C. History taking
- D. Secondary assessment
- E. Monitoring devices
- F. Reassessment

## VIII. Diagnosis and Treatment of Traumatic Disorders

- A. Trauma overview
- B. Bleeding
- C. Chest trauma
- D. Abdominal and genitourinary trauma
- E. Orthopedic trauma
- F. Soft tissue trauma
- G. Head, face, neck and spinal trauma
- H. Nervous system trauma
- I. Special considerations in trauma
- J. Environmental emergencies
- K. Multi-system trauma

## IX. Shock and Resuscitation

### Assignment:

1. Reading (50-80 pages per week)
2. Interpretations of:
  - A. Treatment protocols
  - B. Drug monographs
4. Group project(s)
5. Written assignments, such as:
  - A. Patient care reports
  - B. Discussion posts
6. Quizzes
7. Group scenarios
8. Substantive written examinations
9. Title 22 state mandated attendance
10. Demonstration of non-technical skills related to paramedicine (optional)

### Methods of Evaluation/Basis of Grade:

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Written assignments
---------------------

Writing 10 - 25%
---------------------

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Interpretations; group project(s); group scenarios
--

Problem solving 20 - 35%
-----------------------------

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Demonstration of skills related to paramedicine
---

Skill Demonstrations 0 - 10%
---------------------------------

**Exams:** All forms of formal testing, other than skill performance exams.

Interpretations; quizzes; substantive written examinations

Exams  
30 - 40%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

Interpretations; Title 22 state mandated attendance; participation in class discussions; affective behavior

Other Category  
15 - 25%

**Representative Textbooks and Materials:**

Emergency Care in the Streets. 9th ed. American Academy of Orthopaedic Surgeons (AAOS). Jones & Bartlett Learning. 2022.

FISDAP Tracking and Testing Software