

**EMC 133A Course Outline as of Fall 2018****CATALOG INFORMATION**

Dept and Nbr: EMC 133A Title: PARAMEDIC 1A - PREP.

Full Title: Paramedic Theory 1A - Preparatory

Last Reviewed: 9/26/2022

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	9.50	Lecture Scheduled	10.00	13	Lecture Scheduled	130.00
Minimum	9.50	Lab Scheduled	9.00	13	Lab Scheduled	117.00
		Contact DHR	0		Contact DHR	0
		Contact Total	19.00		Contact Total	247.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 260.00

Total Student Learning Hours: 507.00

Title 5 Category: AA Degree Applicable

Grading: Grade Only

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

Also Listed As:

Formerly: EMC 130A

**Catalog Description:**

First course in a series leading to the completion of paramedic didactic training. Emphasis is on preparatory, airway management, patient assessment and pharmacology in the pre-hospital environment. The California Health and Safety Code, Title 22 regulations, the National Emergency Medical Services Education Standards (NEMSES) as published by U.S. Department of Transportation (DOT).

**Prerequisites/Corequisites:**

Course Completion of ANAT 40, and EMC 109, EMC 114; and Concurrent Enrollment in EMC 131A; OR

Course Completion of ANAT 58, and EMC 109, EMC 114; and Concurrent Enrollment in EMC 131A

**Recommended Preparation:**

Eligibility for ENGL 100 or ESL 100; AND Course Completion of CSKLS 372 and EMC 105

**Limits on Enrollment:**

Enrollment in Paramedic Academy

**Schedule of Classes Information:**

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Prerequisites/Corequisites: Course Completion of ANAT 40, and EMC 109, EMC 114; and Concurrent Enrollment in EMC 131A; OR

Course Completion of ANAT 58, and EMC 109, EMC 114; and Concurrent Enrollment in EMC 131A

Recommended: Eligibility for ENGL 100 or ESL 100; AND Course Completion of CSKLS 372 and EMC 105

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:
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<b>CSU Transfer:</b>	Effective:	Inactive:
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<b>UC Transfer:</b>	Effective:	Inactive:
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**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 his/her role within an Emergency Medical Service (EMS) system.
2. Describe the relationship of anatomy and physiology as it relates to the pathophysiology of the ill and injured patient.
3. Demonstrate ability to manage an adult airway.
4. Identify and demonstrate components of an adult patient assessment.
5. Integrate comprehensive knowledge of pharmacology to formulate a treatment plan for the ill or injured patient in the pre-hospital setting.
6. Describe and demonstrates techniques to administer medications as outlined in California Title 22, paramedic scope of practice and National Registry of Emergency Medical Technician.
7. Describes physiology and pathophysiology of shock and infectious disease and implement a comprehensive management plan in the pre-hospital setting.

**Objectives:**

1. Demonstrate skills required of the Emergency Medical Technician (EMT).
2. Explain the roles and responsibilities of the paramedic in contemporary society.
3. Integrate knowledge of the EMS system, the safety and well-being of the paramedic, medlegal

- and ethical issues as it relates to self-care, care of patients and the community.
4. Discuss principles of public health and epidemiology as it relates to medical emergencies, health promotion, community care, and illness and injury prevention.
  5. Demonstrate written communication skills as required to function as a paramedic.
  6. Demonstrate appropriate verbal communication skills that are respectful, culturally sensitive and effective during patient encounters.
  7. Discuss methodology of the collection and reporting of data used for epidemiological and research purposes.
  8. Integrate knowledge of anatomy and physiology as it relates to the understanding of illness and injury.
  9. Integrate scene and patient assessment findings to develop strategies to form a field impression through clinical reasoning.
  10. Demonstrate an organized patient assessment utilizing appropriate history taking, physical examination and monitoring devices.
  11. Identify key terms related to the adult airway.
  12. Discuss the anatomy, physiology and pathophysiology of the adult airway.
  13. Explain and demonstrate airway management of the adult patient.
  14. List key terms related to field care pharmacology.
  15. Discuss the basic concepts of pharmacology related to pertinent federal and state legislation and regulations.
  16. Explain the concepts of pharmacokinetics and pharmacodynamics.
  17. Discuss anatomy and physiology concepts related to medication administration.
  18. Describe the classifications, indications, contraindications, side effects, dosages and routes of administration for medications commonly administered by paramedics.
  19. Explain and demonstrate routes of intravenous access, including peripheral and intraosseous routes.
  20. Review mathematical equivalents and discuss formulas as a basis for performing drug calculations.
  21. Synthesize a pharmacologic management plan including medication administration.
  22. List key terms related to hypoperfusion.
  23. Discuss the anatomy, physiology, and pathophysiology related to hypoperfusion and shock states.
  24. Based on assessment findings, formulate a treatment plan for a hypoperfusion patient.

### **Topics and Scope:**

- I. History of Emergency Medical Services (EMS)
  - A. Prior to WWII
  - B. 1960-1989
  - C. 1990 to present
- II. EMS systems
  - A. Components
  - B. Medical direction
- III. Professionalism of EMS Personnel
  - A. Roles and responsibilities
  - B. Leadership/affective characteristics
  - C. Credentialing/licensing
  - D. Ethics
  - E. Continuing Education (CE)
  - F. Research
- IV. Skills Review of Emergency Medical Technician
  - A. Gurney operation

- B. National Registry skills
- V. Workforce Safety and Wellness
  - A. Personal protective equipment
  - B. Stress management
  - C. Body dynamics
  - D. Transportation equipment
  - E. Principles of wellness
  - F. Principles of public health
- VI. EMS Communication System
  - A. System components
  - B. Verbal
  - C. Written
  - D. Radio protocol
- VII. Therapeutic Communication
  - A. Interpersonal
  - B. Interview techniques
  - C. Difficult patients
- VIII. Medical Legal Issues
  - A. Consent and refusal of care
  - B. Types of consent
  - C. Confidentiality
  - D. Advanced directives
  - E. Tort and criminal actions
  - F. Statutory responsibilities
  - G. Mandatory reporting
  - H. Patient rights and advocacy
- IX. Review of Anatomy and Physiology
  - A. Medical terminology
  - B. Cellular and organ organization
  - C. Review of systems
- X. Airway Management
  - A. Basic adjuncts and techniques
  - B. Respiratory anatomy and physiology
  - C. Advanced adjuncts and techniques
- XI. Patient Assessment
  - A. Scene management
  - B. History taking
  - C. Physical exam techniques
  - D. Monitoring devices
- XII. Respiratory Emergencies
  - A. Review anatomy and physiology
  - B. Pathophysiology
  - C. Treatment and management
- XIII. Introduction to Pharmacology
  - A. Legislation
  - B. Classifications
  - C. Terminology
- XIV. Pharmacological Concepts
  - A. Pharmacokinetics
  - B. Pharmacodynamics
- XV. Medication Administration
  - A. Routes

- B. Calculations
- C. Techniques
- D. Scope of practice medications
- XVI. Immunology
  - A. Pathophysiology
  - B. Immune and inflammation response
  - C. Allergic reaction/anaphylaxis
- XVII. Infectious Diseases
  - A. Modes of transmission and prevention
  - B. Recognition and management of specific diseases
  - C. Public health concerns
- XVIII. Shock
  - A. Fluids and electrolytes
  - B. Acid/base
  - C. Physiology and pathophysiology
  - D. Types of shock
  - E. Management

All areas of the Topics and Scope are covered in both the Lecture and Lab portions of the course

**Assignment:**

Lecture-Related Assignments:

1. Reading 50-80 pages per week
2. Interpretation of 15-20 treatment protocols
3. Interpretation of 30-35 drug monographs

Lab-Relate Assignments:

1. Demonstration of 20-40 skills (airway, medication administration, patient assessment)
2. Group projects (1 - 5)
3. Patient care reports (5 - 10)
4. Quizzes (25 - 30)
5. Group scenarios (10 - 15)
6. Substantive written examinations (2)
7. Substantive skills performance examinations (2)
8. Title 22 state mandated attendance

**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.

Technical report writing (patient care reports)	Writing 5 - 10%
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**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Patient simulations, patient scenarios, group projects	Problem solving 10 - 20%
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**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Skill performance examinations

Skill Demonstrations  
30 - 40%

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

Quizzes, short answers, multiple choice, substantive exams

Exams  
30 - 40%

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

Affective behavior, attendance, participation in class discussions

Other Category  
15 - 25%

**Representative Textbooks and Materials:**

Paramedic Care: Principles and Practice, Vols. 1-5. 5th ed. Bledsoe, Bryan and Porter, Robert and Cherry, Richard. Pearson. 2016  
FISDAP Tracking and Testing Software