

Course Syllabus

Department: Physical Education and Integrated Health

Date: 4/8/14

I. Course Prefix and Number: EMCR 195

Course Name: Paramedic I

Credit Hours and Contact Hours: 16 credit hours/18 contact hours

Catalog Description including pre- and co-requisites: *supporting data required for grade prerequisite of 'C' or higher.* The Paramedic I course establishes the parameters that a paramedic operates within while in the pre-hospital setting. The Paramedic's scope of practice includes basic and advanced skills focused on the acute management and transportation of the broad range of patients who access the emergency medical system. This may occur at an emergency scene until transportation resources arrive, from an emergency scene to a health care facility, between health care facilities, or in other health care settings.

In some communities, Paramedics provide a large portion of the out-of-hospital care and represent the highest level of out-of-hospital care. In communities that use emergency medical dispatch systems, Paramedics may be part of a tiered response system. In all cases, Paramedics work alongside other EMS and health care professionals as an integral part of the emergency care team.

The Paramedic's scope of practice includes invasive and pharmacological interventions to reduce the morbidity and mortality associated with acute out-of-hospital medical and traumatic emergencies. Emergency care is based on an advanced assessment and the formulation of a field impression. The Paramedic provides care designed to minimize secondary injury and provide comfort to the patient and family while transporting the patient to an appropriate health facility.

Topics include roles and responsibilities of a paramedic, medical and legal considerations, EMS communications and documentation. This course provides students with a general overview and principles of anatomy and pathology along with life span development. Students are also provided with the fundamentals of pharmacology including routes of drug absorption, administration, distribution, bioformation and elimination, dosage calculations and packaging.

Also covered will be anatomy and physiology of the respiratory system and airway. Emphasis on oxygen therapy and advanced and difficult airway management techniques will be covered during this program. Endotracheal intubation, paralytics and surgical airway are some of the procedures taught.

Topics will also include anatomy of the vascular system with emphasis on the pathophysiology of shock. The student will be provided with a solid understanding of patient assessment which is the foundation for providing quality patient care. Additional topics will include cardiac emergencies, basic anatomy, physiology, pathophysiology of the heart. Identification of arrhythmias is presented along with the appropriate pre-hospital management modalities. Twelve lead ECG interpretations, pharmacotherapy, defibrillation, cardioversion and pathophysiology of more common cardiovascular diseases will be covered. With this the student will be prepared for certification by the American Heart Association in Advanced Cardiac Life Support along with Pediatric Advanced Life support, which includes care for the pediatric and neonate patients.

During this course students will be required to perform clinical requirements in communications, morgue labs, operating room labs, phlebotomy labs, coronary care units, as well as shadowing nurses and physicians in emergency departments. Along with the above clinical requirements, the student will begin a field internship with approved advanced life support agencies and designated preceptors.

Prerequisites: Must hold a minimum certification of a NYS EMT and maintain that certification throughout the entire program. Student must be accepted into the Paramedic Certification Program.

Relationship to Academic Programs and Curriculum including SUNY Gen Ed designation if applicable:

This is the first of two consecutive courses to complete the EMT-Paramedic Certificate Program. The EMT-Paramedic Certificate Program is also part of the AAS EMT-Paramedic Program.

II. Course Student Learning Outcomes: *State the student learning outcome(s) for the course (e.g. Student will be able to identify...)*

The student will:

- *understand and apply comprehensive knowledge of EMS systems, 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.
- *demonstrate a complex depth and comprehensive breadth of knowledge of the anatomy and physiology of all human systems.
- *recognize comprehensive anatomical and medical terminology and abbreviations into the written and oral communications with colleagues and other health care professionals.
- *demonstrate comprehensive knowledge of pathophysiology of major human systems.
- *understand and apply comprehensive knowledge of life span development.
- *apply fundamental knowledge of principles of public health and epidemiology including public health emergencies, health promotion, and illness and injury prevention.

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

*Identify scene and patient assessment findings with knowledge of epidemiology and pathophysiology to form a field impression

*Develop a list of differential diagnoses through clinical reasoning to modify the assessment and formulate a treatment plan.

*Combine assessment findings with principles of epidemiology and pathophysiology to formulate a field impression.

*Implement a comprehensive treatment/disposition plan for a patient with a cardiac/medical complaint.

College Learning Outcomes Addressed by the Course: *(check each College Learning Outcome addressed by the Student Learning Outcomes)*

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|---|---|
| <input type="checkbox"/> writing | <input type="checkbox"/> computer literacy |
| <input type="checkbox"/> oral communications | <input checked="" type="checkbox"/> ethics/values |
| <input checked="" type="checkbox"/> reading | <input type="checkbox"/> citizenship |
| <input checked="" type="checkbox"/> mathematics | <input type="checkbox"/> global concerns |
| <input checked="" type="checkbox"/> critical thinking | <input type="checkbox"/> information resources |

III. Assessment Measures (Summarize how the college and student learning outcomes will be assessed): *For each identified outcome checked, please provide the specific assessment measure.*

List identified College Learning Outcomes(s)	Specific assessment measure(s)
<i>Reading</i>	<i>There will be numerous chapters of various books with reading assignments to gather the knowledge necessary. Success will be measured through quizzes, modular exams, and final exams.</i>
Mathematics	The student will learn drug calculations and administration through instruction in the classroom setting. Success will be measured through classroom work, quizzes and exams.
Ethics/Values	Understanding of ethics/values will be discussed during the classroom setting. Comprehension will be done through quizzes, modular and final exams, as well as through the students' hospital and field ride time.
Critical Thinking	Assessment will be done through scenario

	practice during the class, through the students' hospital and field ride time to prepare the students for the NYS and National Registry Practical and Written Exams.
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IV. Instructional Materials and Methods

Types of Course Materials:

Textbooks, Various EMS Equipment – i.e. airway manikins, various intubation equipment, ventilators, stethoscopes, blood pressure cuffs, etc. Cadaver Labs. Various Medications. Sinman, Sinbaby, Cardiac Monitors, Simulators.

Methods of Instruction (e.g. Lecture, Lab, Seminar ...):

Lecture, Classroom Labs, Cadaver Labs, Medication Labs, IV Labs, Communications Clinicals at 911 Centers, Hospital Clinicals – i.e. Phlebotomy , Nurses Shadow, MD Shadow, ICU/CCU/MICU Shadow .Clinical Time with ALS Ambulance Agencies.

V. General Outline of Topics Covered:

- EMS Systems
- EMS Research
- Workforce Safety and Wellness
- EMS Documentation
- EMS System Communications
- Therapeutic Communications
- Medical/Legal and Ethics
- Anatomy and Physiology
- Medical Terminology
- Pathophysiology
- Life Span Development
- Public Health
- Principles of Pharmacology
- Medication Administration
- Emergency Medications
- Airway Management
- Respiration and Artificial Ventilations
- Scene Size Up
- Primary Assessment
- History Taking
- Secondary Assessment
- Monitoring Devices

Reassessment
Medical Overview
Anatomy of the Cardiovascular System
Physiology of the Cardiovascular System
Electrophysiology of the Cardiovascular System
Epidemiology of the Cardiovascular System
Primary survey for cardiovascular assessment
History and physical/SAMPLE format
Secondary survey for cardiovascular assessment
Electrocardiographic (ECG) monitoring
Cardiac arrhythmias - identification
Management of the patient with a cardiac arrhythmia
Acute Coronary Syndrome
Acute Myocardial Infarction/Angina
Heart Failure
Non Traumatic Cardiac Tamponade
Hypertensive Emergencies
Cardiogenic Shock
Cardiac Arrest
Vascular Disorders
Aortic Aneurysm/Dissection
Thromboembolism
Congenital Heart Disease
Valvular Heart Disease
Coronary Artery Disease
Infectious Diseases of the Heart
Cardiomyopathy
Congenital Abnormalities and Age-Related Variations
Integration

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