

WEST LOS ANGELES COLLEGE
DEPARTMENT OF ALLIED HEALTH

DO NOT PUBLISH ONLINE

- I. AH 46: CARDIOLOGY ASSESSMENT & MEDICAL EMERGENCIES
- II. PREPARED BY: PARAMEDIC FACULTY
- III. REVISED FOR: FALL 2015
- IV. PREREQUISITES: Open only to students admitted through the UCLA Center for Prehospital Care and currently certified as an Emergency Medical Technician (Allied Health 52) in the State of California.
- V. UNITS: 6 UNITS
- VI. OFFICE HOURS: WED. 8:00AM – 5:00PM
- VII. COURSE INSTRUCTOR: HEATHER DAVIS
hdavis@mednet.ucla.edu
- VIII. COURSE DESCRIPTION:

This course discusses the assessment and treatment options for cardiac emergencies and pharmacologic interventions.

- IX. TEXTS:
Nancy Caroline's Emergency Care in the Streets, 7th edition by the American Academy of Orthopaedic Surgeons, 2012.
- X. COURSE SLO ADDRESSED IN THIS COURSE:

<p style="text-align: center;"><u>Course SLO</u></p> <p>One sentence that describes a major piece of knowledge, skill, or ability that students can demonstrate by the end of the course <i>Finish the sentence, "At end of the course, the successful student will be able to... "</i></p>	<p style="text-align: center;"><u>Assessment Method</u></p> <p>Major assignment, project or test used to demonstrate or apply outcome <i>Remember to have a mix of qualitative and quantitative assessment methods.</i></p>	<p style="text-align: center;"><u>Criterion Level</u></p> <p>Reflects satisfactory performance on the SLO</p> <ul style="list-style-type: none"> • <i>At least X percent of students achieve this course SLO.</i> • <i>All students achieve at least the Y level on this SLO.</i> • <i>At least X percent of students achieve the Y level on this course SLO.</i>
<p>1. reflect on their development as active learners and assess peer evaluations for reflection and discussion.</p>	<p>Students will complete peer evaluations according to a grading requirement guideline and participate in class discussions that will be assessed on according to participation quality grading guidelines.</p>	<p>All students will correctly answer at least 80% of the exam questions.</p>
<p>2. Evaluate a patient's signs and</p>	<p>Students will be assessed for</p>	<p>At least 75% of students will</p>

symptoms to determine the appropriate chief complaint and treatment priority.	communication using student presentations in case scenarios that will be assessed according to grading guidelines/rubrics.	achieve 75% of the points available on the case scenario.
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XI. COURSE OBJECTIVES:

Cardiology

At the completion of this unit, the paramedic student will be able to:

- 5-2.1 Describe the incidence, morbidity and mortality of cardiovascular disease. (C-1)
- 5-2.2 Discuss prevention strategies that may reduce the morbidity and mortality of cardiovascular disease. (C-1)
- 5-2.3 Identify the risk factors most predisposing to coronary artery disease. (C-1)
- 5-2.4 Describe the anatomy of the heart, including the position in the thoracic cavity, layers of the heart, chambers of the heart, and location and function of cardiac valves. (C-1)
- 5-2.5 Identify the major structures of the vascular system. (C-1)
- 5-2.6 Identify the factors affecting venous return. (C-1)
- 5-2.7 Identify and define the components of cardiac output. (C-1)
- 5-2.8 Identify phases of the cardiac cycle. (C-1)
- 5-2.9 Identify the arterial blood supply to any given area of the myocardium. (C-1)
- 5-2.10 Compare and contrast the coronary arterial distribution to the major portions of the cardiac conduction system. (C-3)
- 5-2.11 Identify the structure and course of all divisions and subdivisions of the cardiac conduction system. (C-1)
- 5-2.12 Identify and describe how the heart's pacemaking control, rate, and rhythm are determined. (C-2)
- 5-2.13 Explain the physiological basis of conduction delay in the AV node. (C-3)
- 5-2.14 Define the functional properties of cardiac muscle. (C-1)
- 5-2.15 Define the events comprising electrical potential. (C-1)
- 5-2.16 List the most important ions involved in myocardial action potential and their primary function in this process. (C-2)
- 5-2.17 Describe the events involved in the steps from excitation to contraction of cardiac muscle fibers. (C-1)
- 5-2.18 Describe the clinical significance of Starling's law. (C-3)
- 5-2.19 Identify the structures of the autonomic nervous system (ANS). (C-1)
- 5-2.20 Identify the effect of the ANS on heart rate, rhythm and contractility. (C-1)
- 5-2.21 Define and give examples of positive and negative inotropism, chronotropism and dromotropism. (C-2)
- 5-2.22 Discuss the pathophysiology of cardiac disease and injury. (C-1)
- 5-2.23 Identify and describe the details of inspection, auscultation and palpation specific to the cardiovascular system. (C-1)
- 5-2.24 Define pulse deficit, pulsus paradoxus and pulsus alternans. (C-1)
- 5-2.25 Identify the normal characteristics of the point of maximal impulse (PMI). (C-1)
- 5-2.26 Identify and define the heart sounds. (C-1)
- 5-2.27 Relate heart sounds to hemodynamic events in the cardiac cycle. (C-2)
- 5-2.28 Describe the differences between normal and abnormal heart sounds. (C-2)
- 5-2.29 Identify and describe the components of the focused history as it relates to the patient with cardiovascular compromise. (C-1)
- 5-2.30 Explain the purpose of ECG monitoring. (C-1)
- 5-2.31 Describe how ECG wave forms are produced. (C-2)
- 5-2.32 Correlate the electrophysiological and hemodynamic events occurring throughout the entire cardiac cycle with the various ECG wave forms, segments and intervals. (C-2)
- 5-2.33 Identify how heart rates, durations, and amplitudes may be determined from ECG recordings. (C-3)
- 5-2.34 Relate the cardiac surfaces or areas represented by the ECG leads. (C-2)
- 5-2.35 Given an ECG, identify the arrhythmia. (C-3)
- 5-2.36 Identify the limitations to the ECG. (C-1)
- 5-2.37 Differentiate among the primary mechanisms responsible for producing cardiac arrhythmias. (C-1)
- 5-2.38 Describe a systematic approach to the analysis and interpretation of cardiac arrhythmias. (C-2)
- 5-2.39 Describe the arrhythmias originating in the sinus node, the AV junction, the atria, and the ventricles. (C-3)

- 5-2.40 Describe the arrhythmias originating or sustained in the AV junction. (C-3)
- 5-2.41 Describe the abnormalities originating within the bundle branch system. (C-3)
- 5-2.42 Describe the process of differentiating wide QRS complex tachycardias. (C-3)
- 5-2.43 Recognize the pitfalls in the differentiation of wide QRS complex tachycardias. (C-1)
- 5-2.44 Describe the conditions of pulseless electrical activity. (C-3)
- 5-2.45 Describe the phenomena of reentry, aberration and accessory pathways. (C-1)
- 5-2.46 Identify the ECG changes characteristically produced by electrolyte imbalances and specify the clinical implications. (C-2)
- 5-2.47 Identify patient situations where ECG rhythm analysis is indicated. (C-1)
- 5-2.48 Recognize the changes on the ECG that may reflect evidence of myocardial ischemia and injury. (C-1)
- 5-2.49 Recognize the limitations of the ECG in reflecting evidence of myocardial ischemia and injury. (C-1)
- 5-2.50 Correlate abnormal ECG findings with clinical interpretation. (C-2)
- 5-2.51 Identify the major therapeutic objectives in the treatment of the patient with any arrhythmia. (C-1)
- 5-2.52 Identify the major mechanical, pharmacological and electrical therapeutic interventions. (C-3)
- 5-2.53 Based on field impressions, identify the need for rapid intervention for the patient in cardiovascular compromise. (C-3)
- 5-2.54 Describe the incidence, morbidity and mortality associated with myocardial conduction defects. (C-1)
- 5-2.55 Identify the clinical indications for transcutaneous and permanent artificial cardiac pacing. (C-1)
- 5-2.56 Describe the components and the functions of a transcutaneous pacing system. (C-1)
- 5-2.57 Explain what each setting and indicator on a transcutaneous pacing system represents and how the settings may be adjusted. (C-2)
- 5-2.58 Describe the techniques of applying a transcutaneous pacing system. (C-1)
- 5-2.59 Describe the characteristics of an implanted pacemaking system. (C-1)
- 5-2.60 Describe artifacts that may cause confusion when evaluating the ECG of a patient with a pacemaker. (C-2)
- 5-2.61 List the possible complications of pacing. (C-3)
- 5-2.62 List the causes and implications of pacemaker failure. (C-2)
- 5-2.63 Identify additional hazards that interfere with artificial pacemaker function. (C-1)
- 5-2.64 Recognize the complications of artificial pacemakers as evidenced on ECG. (C-2)
- 5-2.65 Describe the epidemiology, morbidity and mortality, and pathophysiology of angina pectoris. (C-1)
- 5-2.66 List and describe the assessment parameters to be evaluated in a patient with angina pectoris. (C-1)
- 5-2.67 Identify what is meant by the OPQRST of chest pain assessment. (C-3)
- 5-2.68 List other clinical conditions that may mimic signs and symptoms of coronary artery disease and angina pectoris. (C-1)
- 5-2.69 Identify the ECG findings in patients with angina pectoris. (C-3)
- 5-2.70 Identify the paramedic responsibilities associated with management of the patient with angina pectoris. (C-2)
- 5-2.71 Based on the pathophysiology and clinical evaluation of the patient with chest pain, list the anticipated clinical problems according to their life-threatening potential. (C-3)
- 5-2.72 Describe the epidemiology, morbidity and mortality of myocardial infarction. (C-1)
- 5-2.73 List the mechanisms by which an MI may be produced by traumatic and non-traumatic events. (C-2)
- 5-2.74 Identify the primary hemodynamic changes produced in myocardial infarction. (C-1)
- 5-2.75 List and describe the assessment parameters to be evaluated in a patient with a suspected myocardial infarction. (C-1)
- 5-2.76 Identify the anticipated clinical presentation of a patient with a suspected acute myocardial infarction. (C-3)
- 5-2.77 Differentiate the characteristics of the pain/ discomfort occurring in angina pectoris and acute myocardial infarction. (C-2)
- 5-2.78 Identify the ECG changes characteristically seen during evolution of an acute myocardial infarction. (C-2)
- 5-2.79 Identify the most common complications of an acute myocardial infarction. (C-3)
- 5-2.80 List the characteristics of a patient eligible for thrombolytic therapy. (C-2)
- 5-2.81 Describe the "window of opportunity" as it pertains to reperfusion of a myocardial injury or infarction. (C-3)
- 5-2.82 Based on the pathophysiology and clinical evaluation of the patient with a suspected acute myocardial infarction, list the anticipated clinical problems according to their life-threatening potential. (C-3)
- 5-2.83 Specify the measures that may be taken to prevent or minimize complications in the patient suspected of myocardial infarction. (C-3)
- 5-2.84 Describe the most commonly used cardiac drugs in terms of therapeutic effect and dosages, routes of

- administration, side effects and toxic effects. (C-3)
- 5-2.85 Describe the epidemiology, morbidity and mortality of heart failure. (C-1)
- 5-2.86 Define the principle causes and terminology associated with heart failure. (C-1)
- 5-2.87 Identify the factors that may precipitate or aggravate heart failure. (C-3)
- 5-2.88 Describe the physiological effects of heart failure. (C-2)
- 5-2.89 Define the term "acute pulmonary edema" and describe its relationship to left ventricular failure. (C-3)
- 5-2.90 Define preload, afterload and left ventricular end-diastolic pressure and relate each to the pathophysiology of heart failure. (C-3)
- 5-2.91 Differentiate between early and late signs and symptoms of left ventricular failure and those of right ventricular failure. (C-3)
- 5-2.92 Explain the clinical significance of paroxysmal nocturnal dyspnea. (C-1)
- 5-2.93 Explain the clinical significance of edema of the extremities and sacrum. (C-1)
- 5-2.94 List the interventions prescribed for the patient in acute congestive heart failure. (C-2)
- 5-2.95 Describe the most commonly used pharmacological agents in the management of congestive heart failure in terms of therapeutic effect, dosages, routes of administration, side effects and toxic effects. (C-1)
- 5-2.96 Define the term "cardiac tamponade". (C-1)
- 5-2.97 List the mechanisms by which cardiac tamponade may be produced by traumatic and non-traumatic events. (C-2)
- 5-2.98 Identify the limiting factor of pericardial anatomy that determines intrapericardiac pressure. (C-1)
- 5-2.99 Identify the clinical criteria specific to cardiac tamponade. (C-2)
- 5-2.100 Describe how to determine if pulsus paradoxus, pulsus alternans or electrical alternans is present. (C-2)
- 5-2.101 Identify the paramedic responsibilities associated with management of a patient with cardiac tamponade. (C-2)
- 5-2.102 Describe the incidence, morbidity and mortality of hypertensive emergencies. (C-1)
- 5-2.103 Define the term "hypertensive emergency". (C-1)
- 5-2.104 Identify the characteristics of the patient population at risk for developing a hypertensive emergency. (C-1)
- 5-2.105 Explain the essential pathophysiological defect of hypertension in terms of Starling's law of the heart. (C-3)
- 5-2.106 Identify the progressive vascular changes associate with sustained hypertension. (C-1)
- 5-2.107 Describe the clinical features of the patient in a hypertensive emergency. (C-3)
- 5-2.108 Rank the clinical problems of patients in hypertensive emergencies according to their sense of urgency. (C-3)
- 5-2.109 From the priority of clinical problems identified, state the management responsibilities for the patient with a hypertensive emergency. (C-2)
- 5-2.110 Identify the drugs of choice for hypertensive emergencies, rationale for use, clinical precautions and disadvantages of selected antihypertensive agents. (C-3)
- 5-2.111 Correlate abnormal findings with clinical interpretation of the patient with a hypertensive emergency. (C-3)
- 5-2.112 Define the term "cardiogenic shock". (C-1)
- 5-2.113 Describe the major systemic effects of reduced tissue perfusion caused by cardiogenic shock. (C-3)
- 5-2.114 Explain the primary mechanisms by which the heart may compensate for a diminished cardiac output and describe their efficiency in cardiogenic shock. (C-3)
- 5-2.115 Differentiate progressive stages of cardiogenic shock. (C-3)
- 5-2.116 Identify the clinical criteria for cardiogenic shock. (C-1)
- 5-2.117 Describe the characteristics of patients most likely to develop cardiogenic shock. (C-3)
- 5-2.118 Describe the most commonly used pharmacological agents in the management of cardiogenic shock in terms of therapeutic effects, dosages, routes of administration, side effects and toxic effects. (C-2)
- 5-2.119 Correlate abnormal findings with clinical assessment of the patient in cardiogenic shock. (C-3)
- 5-2.120 Identify the paramedic responsibilities associated with management of a patient in cardiogenic shock. (C-2)
- 5-2.121 Define the term "cardiac arrest". (C-1)
- 5-2.122 Identify the characteristics of patient population at risk for developing cardiac arrest from cardiac causes. (C-1)
- 5-2.123 Identify non-cardiac causes of cardiac arrest. (C-1)
- 5-2.124 Describe the arrhythmias seen in cardiac arrest. (C-3)

- 5-2.125 Identify the critical actions necessary in caring for the patient with cardiac arrest. (C-3)
- 5-2.126 Explain how to confirm asystole using the 3-lead ECG. (C-1)
- 5-2.127 Define the terms defibrillation and synchronized cardioversion. (C-1)
- 5-2.128 Specify the methods of supporting the patient with a suspected ineffective implanted defibrillation device. (C-2)
- 5-2.129 Describe the most commonly used pharmacological agents in the managements of cardiac arrest in terms of therapeutic effects. (C-3)
- 5-2.130 Identify resuscitation. (C-1)
- 5-2.131 Identify circumstances and situations where resuscitation efforts would not be initiated. (C-1)
- 5-2.132 Identify and list the inclusion and exclusion criteria for termination of resuscitation efforts. (C-1)
- 5-2.133 Identify communication and documentation protocols with medical direction and law enforcement used for termination of resuscitation efforts. (C-1)
- 5-2.134 Describe the incidence, morbidity and mortality of vascular disorders. (C-1)
- 5-2.135 Describe the pathophysiology of vascular disorders. (C-1)
- 5-2.136 List the traumatic and non-traumatic causes of vascular disorders. (C-1)
- 5-2.137 Define the terms "aneurysm", "claudication" and "phlebitis". (C-1)
- 5-2.138 Identify the peripheral arteries most commonly affected by occlusive disease. (C-1)
- 5-2.139 Identify the major factors involved in the pathophysiology of aortic aneurysm. (C-1)
- 5-2.140 Recognize the usual order of signs and symptoms that develop following peripheral artery occlusion. (C-3)
- 5-2.141 Identify the clinical significance of claudication and presence of arterial bruits in a patient with peripheral vascular disorders. (C-3)
- 5-2.142 Describe the clinical significance of unequal arterial blood pressure readings in the arms. (C-3)
- 5-2.143 Recognize and describe the signs and symptoms of dissecting thoracic or abdominal aneurysm. (C-3)
- 5-2.144 Describe the significant elements of the patient history in a patient with vascular disease. (C-2)
- 5-2.145 Identify the hemodynamic effects of vascular disorders. (C-1)
- 5-2.146 Identify the complications of vascular disorders. (C-1)
- 5-2.147 Identify the Paramedic's responsibilities associated with management of patients with vascular disorders. (C-2)
- 5-2.148 Develop, execute and evaluate a treatment plan based on the field impression for the patient with vascular disorders. (C-3)
- 5-2.149 Differentiate between signs and symptoms of cardiac tamponade, hypertensive emergencies, cardiogenic shock, and cardiac arrest. (C-3)
- 5-2.150 Based on the pathophysiology and clinical evaluation of the patient with chest pain, characterize the clinical problems according to their life-threatening potential. (C-3)
- 5-2.151 Apply knowledge of the epidemiology of cardiovascular disease to develop prevention strategies. (C-3)
- 5-2.152 Integrate pathophysiological principles into the assessment of a patient with cardiovascular disease. (C-3)
- 5-2.153 Apply knowledge of the epidemiology of cardiovascular disease to develop prevention strategies. (C-3)
- 5-2.154 Integrate pathophysiological principles into the assessment of a patient with cardiovascular disease. (C-3)
- 5-2.155 Synthesize patient history, assessment findings and ECG analysis to form a field impression for the patient with cardiovascular disease. (C-3)
- 5-2.156 Integrate pathophysiological principles to the assessment of a patient in need of a pacemaker. (C-1)
- 5-2.157 Synthesize patient history, assessment findings and ECG analysis to form a field impression for the patient in need of a pacemaker. (C-3)
- 5-2.158 Develop, execute, and evaluate a treatment plan based on field impression for the patient in need of a pacemaker. (C-3)
- 5-2.159 Based on the pathophysiology and clinical evaluation of the patient with chest pain, characterize the clinical problems according to their life-threatening potential. (C-3)
- 5-2.160 Integrate pathophysiological principles to the assessment of a patient with chest pain. (C-3)
- 5-2.161 Synthesize patient history, assessment findings and ECG analysis to form a field impression for the patient with angina pectoris. (C-3)
- 5-2.162 Develop, execute and evaluate a treatment plan based on the field impression for the patient with chest pain. (C-3)
- 5-2.163 Integrate pathophysiological principles to the assessment of a patient with a suspected myocardial infarction. (C-3)
- 5-2.164 Synthesize patient history, assessment findings and ECG analysis to form a field impression for the patient with a suspected myocardial infarction. (C-3)

- 5-2.165 Develop, execute and evaluate a treatment plan based on the field impression for the suspected myocardial infarction patient. (C-3)
- 5-2.166 Integrate pathophysiological principles to the assessment of the patient with heart failure. (C-3)
- 5-2.167 Synthesize assessment findings and patient history information to form a field impression of the patient with heart failure. (C-3)
- 5-2.168 Develop, execute, and evaluate a treatment plan based on the field impression for the heart failure patient. (C-3)
- 5-2.169 Integrate pathophysiological principles to the assessment of a patient with cardiac tamponade. (C-3)
- 5-2.170 Synthesize assessment findings and patient history information to form a field impression of the patient with cardiac tamponade. (C-3)
- 5-2.171 Develop, execute and evaluate a treatment plan based on the field impression for the patient with cardiac tamponade. (C-3)
- 5-2.172 Integrate pathophysiological principles to the assessment of the patient with a hypertensive emergency. (C-3)
- 5-2.173 Synthesize assessment findings and patient history information to form a field impression of the patient with a hypertensive emergency. (C-3)
- 5-2.174 Develop, execute and evaluate a treatment plan based on the field impression for the patient with a hypertensive emergency. (C-3)
- 5-2.175 Integrate pathophysiological principles to the assessment of the patient with cardiogenic shock. (C-3)
- 5-2.176 Synthesize assessment findings and patient history information to form a field impression of the patient with cardiogenic shock. (C-3)
- 5-2.177 Develop, execute, and evaluate a treatment plan based on the field impression for the patient with cardiogenic shock. (C-3)
- 5-2.178 Integrate the pathophysiological principles to the assessment of the patient with cardiac arrest. (C-3)
- 5-2.179 Synthesize assessment findings to formulate a rapid intervention for a patient in cardiac arrest. (C-3)
- 5-2.180 Synthesize assessment findings to formulate the termination of resuscitative efforts for a patient in cardiac arrest. (C-3)
- 5-2.181 Integrate pathophysiological principles to the assessment of a patient with vascular disorders. (C-3)
- 5-2.182 Synthesize assessment findings and patient history to form a field impression for the patient with vascular disorders. (C-3)
- 5-2.183 Integrate pathophysiological principles to the assessment and field management of a patient with chest pain. (C-3)

At the completion of this unit, the paramedic student will be able to:

- 5-2.184 Value the sense of urgency for initial assessment and intervention in the patient with cardiac compromise. (A-3)
- 5-2.185 Value and defend the sense of urgency necessary to protect the window of opportunity for reperfusion in the patient with suspected myocardial infarction. (A-3)
- 5-2.186 Defend patient situations where ECG rhythm analysis is indicated. (A-3)
- 5-2.187 Value and defend the application of transcutaneous pacing system. (A-3)
- 5-2.188 Value and defend the urgency in identifying pacemaker malfunction. (A-3)
- 5-2.189 Based on the pathophysiology and clinical evaluation of the patient with acute myocardial infarction, characterize the clinical problems according to their life-threatening potential. (A-3)
- 5-2.190 Defend the measures that may be taken to prevent or minimize complications in the patient with a suspected myocardial infarction. (A-3)
- 5-2.191 Defend the urgency based on the severity of the patient's clinical problems in a hypertensive emergency. (A-3)
- 5-2.192 From the priority of clinical problems identified, state the management responsibilities for the patient with a hypertensive emergency. (A-3)
- 5-2.193 Value and defend the urgency in rapid determination of and rapid intervention of patients in cardiac arrest. (A-3)
- 5-2.194 Value and defend the possibility of termination of resuscitative efforts in the out-of-hospital setting. (A-3)
- 5-2.195 Based on the pathophysiology and clinical evaluation of the patient with vascular disorders, characterize the clinical problems according to their life-threatening potential. (A-3)
- 5-2.196 Value and defend the sense of urgency in identifying peripheral vascular occlusion. (A-3)
- 5-2.197 Value and defend the sense of urgency in recognizing signs of aortic aneurysm. (A-3)

- 1-7.1 Describe historical trends in pharmacology. (C-1)
- 1-7.2 Differentiate among the chemical, generic (nonproprietary), and trade (proprietary) names of a drug. (C-3)
- 1-7.3 List the four main sources of drug products. (C-1)
- 1-7.4 Describe how drugs are classified. (C-1)
- 1-7.5 List the authoritative sources for drug information. (C-1)
- 1-7.6 List legislative acts controlling drug use and abuse in the United States. (C-1)
- 1-7.7 Differentiate among Schedule I, II, III, IV, and V substances. (C-3)
- 1-7.8 List examples of substances in each schedule. (C-1)
- 1-7.9 Discuss standardization of drugs. (C-1)
- 1-7.10 Discuss investigational drugs, including the Food and Drug Administration (FDA) approval process and the FDA classifications for newly approved drugs. (C-1)
- 1-7.11 Discuss special consideration in drug treatment with regard to pregnant, pediatric and geriatric patients. (C-1)
- 1-7.12 Discuss the paramedic's responsibilities and scope of management pertinent to the administration of medications. (C-1)
- 1-7.13 Review the specific anatomy and physiology pertinent to pharmacology with additional attention to autonomic pharmacology. (C-1)
- 1-7.14 List and describe general properties of drugs. (C-1)
- 1-7.15 List and describe liquid and solid drug forms. (C-1)
- 1-7.16 List and differentiate routes of drug administration. (C-3)
- 1-7.17 Differentiate between enteral and parenteral routes of drug administration. (C-3)
- 1-7.18 Describe mechanisms of drug action. (C-1)
- 1-7.19 List and differentiate the phases of drug activity, including the pharmaceutical, pharmacokinetic, and pharmacodynamic phases. (C-3)
- 1-7.20 Describe the process called pharmacokinetics, pharmacodynamics, including theories of drug action, drug-response relationship, factors altering drug responses, predictable drug responses, iatrogenic drug responses, and unpredictable adverse drug responses. (C-1)
- 1-7.21 Differentiate among drug interactions. (C-3)
- 1-7.22 Discuss considerations for storing and securing medications. (C-1)
- 1-7.23 List the component of a drug profile by classification. (C-1)
- 1-7.24 List and describe drugs that the paramedic may administer according to local protocol. (C-1)
- 1-7.25 Integrate pathophysiological principles of pharmacology with patient assessment. (C-3)
- 1-7.26 Synthesize patient history information and assessment findings to form a field impression. (C-3)
- 1-7.27 Synthesize a field impression to implement a pharmacologic management plan. (C-3)
- 1-7.28 Assess the pathophysiology of a patient's condition by identifying classifications of drugs. (C-3)

AFFECTIVE OBJECTIVES

At the completion of this unit, the paramedic student will be able to:

- 1-7.29 Serve as a model for obtaining a history by identifying classifications of drugs. (A-3)
- 1-7.30 Defend the administration of drugs by a paramedic to affect positive therapeutic affect. (A-3)
- 1-7.31 Advocate drug education through identification of drug classifications. (A-3)

X. METHODS OF INSTRUCTION:

- Lecture
- Discussion
- Video Presentations
- Review of Articles and Informative Web Based Resources

XI. METHODS OF EVALUATION:

- 30% Quizzes
- 40% Block Exams
- 20% Homework Assignments
- 10% Participation (including skills labs)
- P/F Nationally Accredited Exams (BCLS, ACLS, PALS, PHTLS)
- P/F Skills Exams

The grading policy is as follows:

- 93-100% A
- 85-92% B
- 80-84% C

A minimum score of 80% is required to remain in the program. A score of 79% or less will be recorded as an "F".

XII. ETHICS AND STANDARDS OF CONDUCT:

Due to the high standards of the Program and the paramedic profession, student conduct must reflect professionalism, integrity and responsibility at all times. The following section sets forth ethical standards, standards of conduct, and examples of misconduct subject to disciplinary action (including probation or termination from the Program).

Ethical Standards

Students are expected to meet the following ethical standards while in the Program:

- Paramedics are health care professionals regardless of whether or not they receive monetary compensation for their work. Thus, a paramedic is bound by the highest standards of professional conduct and ethics. The program will not tolerate a breach of these standards by its students. **Certain acts may be so serious that they subject the student to immediate dismissal without progressive discipline.**
- Students must conduct themselves in an ethical manner throughout the classroom, clinical, and field internship phases of the program. Failure to adhere to these standards may result in immediate termination from the program. Violation of these standards includes, but is not limited to, physical violence, stealing, lying, cheating, or breach of patient confidentiality.

Professional Behavior

The conduct of the paramedic student reflects upon the individual, his or her agency, the program, and the EMS profession. Therefore, the student must conduct him/herself in a professional and responsible manner at all times as described below. **Failure to demonstrate professional behavior may result in termination.**

Professional Behavior/Attributes include:

- **Leadership.** Self-confidence, established credibility, ability to remain in control, ability to communicate, willingness to make a decision, willingness to accept responsibility for the consequences of the team's action.
- **Integrity.** Consistent honesty; being able to be trusted with the property of others or with confidential information; complete and accurate documentation of patient care and learning activities.
- **Empathy.** Showing compassion for others; responding appropriately to the emotional response of patients and family members; demonstrating respect for others; demonstrating a calm, compassionate, and helpful demeanor toward those in need; being supportive and reassuring to others.
- **Self-motivation.** Taking initiative to complete assignments; taking initiative to improve and/or correct behavior; taking on and following through on tasks without constant supervision; showing enthusiasm for learning and improvement; consistently striving for excellence in all aspects of patient care and professional activities; accepting constructive feedback in a positive manner; taking advantage of learning opportunities; participating in tutoring sessions; and completing prescribed remediation.
- **Appearance & Personal Hygiene.** Appropriate, neat, clean and well-maintained clothing and uniform; good personal hygiene and grooming.
- **Self-confidence.** Demonstrating the ability to trust personal judgment; demonstrating an awareness of strengths and limitations; exercising good personal judgment.
- **Communication Skills.** Speaking clearly; writing legibly; listening actively; adjusting communication strategies to various situations
- **Time Management Skills.** Consistent punctuality; completing tasks and assignments on time.

- **Diplomacy in Teamwork.** Placing the success of the team above self interest; not undermining the team; helping and supporting other team members; showing respect for all team members; remaining flexible and open to change; communicating with others to resolve problems.
- **Respect.** Being polite to others; not using derogatory or demeaning terms; behaving in a manner that brings credit to the profession.
- **Patient Advocacy.** Not allowing personal bias or feelings to interfere with patient care; placing the needs of patients above self interest; protecting and respecting patient confidentiality and dignity.
- **Careful Delivery of Service.** Mastering and refreshing skills; performing complete equipment checks; demonstrating careful and safe ambulance operations; following policies, procedures, and protocols; following orders.

Misconduct

Students are subject to disciplinary action up to and including termination from the Program for misconduct, including but not limited to:

- **Academic Dishonesty.** All forms of academic misconduct, including but not limited to cheating, fabrication, plagiarism, multiple submissions, or facilitating academic dishonesty. For the purposes of this policy, the following definitions apply:

Cheating. Cheating includes, but is not limited to, the use of or appearance of use of unauthorized materials, information, or study aids in any academic exercise; or helping another student commit an act of academic fraud; or the failure to observe the expressed procedures or instructions of an academic exercise (e.g., examination instructions regarding alternate seating or conversation during an examination).

Fabrication. Fabrication includes, but is not limited to, falsification or invention of any information or citation in an academic exercise.

Plagiarism. Plagiarism includes, but is not limited to, the use of another's words or ideas as if they were one's own; including but not limited to representing, either with the intent to deceive or by the omission of the true source, part of or an entire work produced by someone other than the student, obtained by purchase or otherwise, as the student's original work; or representing the identifiable but altered ideas, data, or writing of another person as if those ideas, data, or writing were the student's original work.

Multiple Submissions. Multiple submissions includes, but is not limited to, the resubmission by a student of any work which has been previously submitted for credit in identical or similar form in one course to fulfill the requirements of a second course, without the informed permission/consent of the instructor of the second course; or the submission by a student of any work submitted for credit in identical or similar form in one course to fulfill the requirements of a concurrent course, without the permission/consent of the instructors of both courses.

Other Forms of Dishonesty. Other forms of dishonesty, including but not limited to fabricating information or knowingly furnishing false information or reporting a false emergency to the program or to program officials acting in the performance of their duties.

- **Forgery.** Forgery, alteration, or misuse of any program document, record, key, electronic device, or identification. This policy applies to any individual for whom the program maintains records, regardless of current student status. Signing an attendance roster for another student or signing a clinical evaluation for a nurse are examples of forgery.
- **Theft.** Theft of, conversion of, misappropriation of, or damage to or destruction of any property of the program or University or property of others while on program or University premises or at official program functions; or possession of any property of the program or others stolen while on program premises or at official program functions.
- **Computers.** Theft or other abuse of computing facilities or computer time, including but not limited to unauthorized entry into a file to use, read, or change the contents or for any other purpose; unauthorized transfer of a file; unauthorized use of another individual's identification or password; use of computing facilities to interfere with the work of another student, faculty member, or program official; use of computing facilities to interfere with a program computing system.
- **Unauthorized Conduct.** Unauthorized possession of, receipt of, duplication of, or use of the program's name, insignia, or seal. Unauthorized entry to, possession of, receipt of, or use of any program properties,

equipment, resources, or services. Selling or distributing course lecture notes, handouts, readers, or other information provided by an instructor, or using them for any commercial purpose, without the express permission of the instructor.

- **Physical Abuse.** Physical abuse, including but not limited to rape, sexual assault, sex offenses, and other physical assault; threats of violence; or conduct that threatens the health or safety of any person.
- **Rape.** Rape refers to "rape" as defined by the California Penal Code (as it may be amended from time to time). Among other acts, the Penal Code prohibits the following acts:
 - Sexual intercourse against a person's will accomplished by force or threats of bodily injury.
 - Sexual intercourse against a person's will where the person has reasonable fear that she (or he) or another will be injured if she (or he) does not submit to the intercourse.
 - Sexual intercourse where the person is incapable of giving consent, or is prevented from resisting, due to alcohol or drugs, and this condition was known, or reasonably should have been known by the accused.
 - Sexual intercourse where the person is incapable of resisting because she (or he), at the time, is unconscious or asleep, and this is known to the accused.
- **Sexual Assault.** The act of sexual assault includes forced sodomy (anal intercourse); forced oral copulation (oral-genital contact); rape by foreign object (forced penetration by a foreign object, including a finger); and sexual battery (the unwanted touching of an intimate part of another person for the purpose of sexual arousal). These also include situations when the accused sexually assaults a complainant incapable of giving consent, including where the complainant is prevented from resisting due to alcohol or drugs and this condition was known, or reasonably should have been known by the accused. Note: For the purpose of this regulation, students should understand that:
 - Forced intercourse or other unwanted sexual contact is defined as rape or sexual assault whether the assailant is a stranger or an acquaintance of the complainant.
 - Intoxication of the assailant shall not diminish the assailant's responsibility for sexual assault.
- **Sexual Harassment.** Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitute sexual harassment when:
 - Submission to such conduct is made either explicitly or implicitly a term or condition of instruction, employment, or participation in other Program activity;
 - Submission to or rejection of such conduct by an individual is used as a basis for evaluation in making academic or personnel decisions affecting an individual; or
 - Such conduct has the purpose or effect of unreasonably interfering with an individual's performance or creating an intimidating, hostile, or offensive Program environment.In determining whether the alleged conduct constitutes sexual harassment, consideration shall be given to the record of the incident as a whole and to the totality of the circumstances, including the context in which the alleged incidents occurred.
- **Stalking.** Stalking is behavior in which an individual willfully, maliciously, and repeatedly engages in a knowing course of conduct directed at a specific person which reasonably and seriously alarms, torments, or terrorizes the person, and which serves no legitimate purpose.
- **"Fighting Words."** The use of "fighting words" by students to harass any person(s) on Program property, on other property to which these policies apply, or in connection with official Program functions or program-sponsored programs. "Fighting words" are those personally abusive epithets which, when directly addressed to any ordinary person are, in the context used and as a matter of common knowledge, inherently likely to provoke a violent reaction whether or not they actually do so. Such words include, but are not limited to, those terms widely recognized to be derogatory references to race, ethnicity, religion, sex, sexual orientation, disability, and other personal characteristics. "Fighting words" constitute "harassment" when the circumstances of their utterance create a hostile and intimidating environment which the student uttering them should reasonably know will interfere with the victim's ability to pursue effectively his or her education or otherwise to participate fully in Program programs and activities.
- **Hazing.** Hazing or any method of initiation or pre-initiation activity which causes, or is likely to cause, bodily danger, physical harm, or personal degradation or disgrace resulting in physical or mental harm to any student or other person.

- **Obstruction or Disruption.** Obstruction or disruption of teaching, research, administration, disciplinary procedures, or other program activities.
- **Disorderly Conduct.** Disorderly or lewd conduct.
- **Disturbing the Peace.** Participation in a disturbance of the peace or unlawful assembly.
- **Failure to Comply.** Failure to identify oneself to, or comply with directions of, a program official or other public official acting in the performance of their duties while on program property or at official program functions, or resisting or obstructing such program or other public officials in the performance of or the attempt to perform their duties.
- **Controlled Substances.** Unlawful manufacture, distribution, dispensing, possession, use, or sale of, or the attempted manufacture, distribution, dispensing, or sale of controlled substances, identified in Federal and State laws or regulations.
- **Alcohol.** Manufacture, distribution, dispensing, possession, use, or sale of, or the attempted manufacture, distribution, dispensing, or sale of alcohol which is unlawful or otherwise prohibited by, or not in compliance with, Program policy or campus regulations.
- **Destructive Devices.** Possession, use, storage, or manufacture of explosives, firebombs, or other destructive devices.
- **Weapons.** Except as expressly permitted by law, possession, use, storage, or manufacture of a firearm or other weapon capable of causing bodily injury.
- **Program Properties.** Using Program properties for the purpose of organizing or carrying out unlawful activity.
- **Violations of Law.** Violation of Federal, State, or local laws.

Classroom Decorum

- Pagers must be turned to silent alert mode or turned off during class.
- Cellular phones and wireless devices must be turned off and stowed away during class and skills labs. Calls and text messages are not to be answered and students are not to leave the classroom during lecture or skills to receive or return calls.
- Student audio, but not video, recording devices are permitted during lectures. No recording devices (cell phones, PDA, personal recording devices, etc.) are allowed out or on your person during quiz reviews or testing, including skills testing. Any phone call to be made during an exam will be done from the front office phone.
- Emergency phone calls may be received by the front office during class and this must be told to anyone wishing to contact you.
- Students must be prepared for class each day. Students should have appropriate learning tools and implements such as: texts, pen, pencil, paper, notebooks, policy manuals, skills manuals, etc. On skills days, students should always wear a watch with second hand, have a stethoscope, and have their skills manuals with them.
- Regularly scheduled breaks will be given throughout the class period. These breaks should be used for returning pages or phone calls, using the restrooms, obtaining snacks or beverages, or smoking. Disrupting the class for any reason other than an emergency will not be tolerated. Special circumstances must be prearranged with the instructor.

- Smoking and use of tobacco products of any kind is not permitted in the building or near its entrances. Smoking is only permitted in assigned areas; proper disposal of cigarette butts is required.
- Reasonable food and **covered drinks** are allowed in the classroom so long as their consumption does not interfere with the instructor's lesson or other students' ability to concentrate. Food that is noisy or smelly may not be consumed in the classroom. Sunflower seeds will be banned if shells are found on the floor.
- Students are not permitted to use facility equipment, including phones, fax machines, staff or faculty computers, or copiers. Students must not enter any faculty office or area without faculty permission. Designated areas of the facility as defined by the faculty are off limits.
- The designated computer lab must only be used for academic work.
- While on breaks, students must respect other students, faculty, and staff with their activities. The facility is used for many other classes and activities. Please be respectful.
- Students must respect the physical property of the facility and its cleanliness. All student areas should be neat and clean prior to leaving the facility at the end of class. Students must wipe down their work surface and put their chair up at the end of class each day.
- Faculty or staff should be notified of any facility issues so that timely maintenance or repair can occur. Housecleaning responsibilities will be shared by the students and explained further during the first week of class.
- After all breaks, students must return to the classroom or skills group on time or be subject to the tardiness policy.
- Students must not sleep in class. Students may stand (not sit) in the back of the classroom if needed to remain attentive.
- Personal computers may not be allowed in the classroom except when specifically requested or allowed by the Instructor for an academic purpose on a given day.
- The Program is committed to reduce, reuse, and recycle. Recycle bins for glass, plastic and aluminum cans exist throughout the building and should be used by students and faculty. Students must not throw recyclables into regular trash bins.
- Students may not contact Clinical Instructors (skills instructors) with questions, comments or concerns without express permission from a full-time faculty member. It is a violation of the Standards of Conduct of the Program to engage in a social or physical relationship with any faculty or staff member, skills or clinical instructor or preceptor.

XIII. ATTENDANCE:

Attendance during all phases of the program is extremely important because of the nature of the material to be presented and the required commitment of outside professionals (clinical faculty and field preceptors) in the program. Following are the attendance requirements for each portion of the program.

General Attendance Rules

Attendance at all classroom, clinical, and field sessions is required. Attendance is verified by signing the attendance roster before the start of each class session (0800 for am sessions and 1330 for pm sessions unless otherwise indicated by the instructor). Students who are not signed in by 0800 or 1330 respectively will be determined to be late or absent.

Any absence requires **prior** notification of the Program Director, either personally, by phone or by e-mail. **A student's failure to make appropriate notification will result in administrative probation after the first occurrence and termination after the second occurrence, cumulatively throughout the entire course** to include classroom, clinical and field internship. Absences will be excused only in the event of severe illness requiring hospitalization, family emergency, jury duty or comparable occurrence. **Documentation of the**

emergency will be required. These strict attendance rules are necessary due to the limited duration of the program and the large number of hours that must be completed for accreditation by the State.

Tardiness is defined as arrival after the start of class (morning or afternoon session) or clinical or field shift. A student who is more than two hours late for the start of class will be marked absent. In the clinical and field internship phases, any tardiness or absence must be reported both to the clinical or field site and to the Paramedic School. Tardiness beyond 30 minutes will result in the shift needing to be rescheduled and repeated at a later date.

Departure prior to the end of class or shift is also prohibited. Students leaving early must notify the instructor/preceptor prior to leaving. Students leaving more than 2 hours before the end of class or shift will be charged with an absence. Early departure between 30 minutes and two hours will result in the shift needing to be rescheduled and necessitate repeating the entire shift. Students leaving up to 30 minutes before the end of the shift will be charged with early departure.

Any combination of three tardies or early departures will be equivalent to one absence. Students will be placed on probation after the equivalent of three absences and terminated upon the tardy, early departure or absence that would exceed five absences for any reason, including withholding of services for nonpayment of installments on the tuition payment plan. Students will be allowed two additional occurrences in each of the clinical and field phases of the program, although the shifts will be required to be rescheduled and completed.

Classroom Phase

During the classroom phase, attendance is critical. All lectures and skills sessions build on material from prior lectures and skills sessions. Without a strong foundation in this prior material, it is extremely difficult to attain and master the new material or skill.

It is the student's responsibility to obtain the information from any lecture or practical session missed. The Program may require the student to perform additional assignments to make up information missed.

If a quiz is missed due to tardiness, early departure, or absence for *any reason* including withholding of services for nonpayment of installments on the tuition payment plan, the quiz grade will be a zero. The zero grade will be recorded and figured into the grade average, but not count against the total number of failed quizzes allowed. Students who miss the quiz shall not participate in any quiz review.

In an emergency, a class may be cancelled by the Program Director. Confirmation of classes can be made by calling (310) 680-1100, or checking the website.

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XIV. COURSE DATES:

This course is offered through the UCLA Center for Prehospital Care and is conducted in an accelerated format designed to meet the needs of students and employers. Class normally meets Monday – Friday, from 8:00am – 5:00pm. Please see the class schedule for specific dates.

XV. COURSE OUTLINE (SUBJECT TO CHANGES):

SESSION	LECTURE TOPIC	LECTURER
1	Toxicology Drugs & Antidotes	Paramedic Faculty
2	IV Skills & Medicine Administration	Paramedic Faculty
3	IV Skills & Medicine Administration	Paramedic Faculty
4	Pharmacokinetics & Dynamics	Paramedic Faculty
5	Drugs by Body System	Paramedic Faculty
6	Drugs by Body System	Paramedic Faculty
7	Drugs by Body System	Paramedic Faculty
8	Drugs by Body System	Paramedic Faculty
9	BLOCK EXAM	Paramedic Faculty
10	Introduction to Cardiology	Paramedic Faculty
11	Rhythm Identification	Paramedic Faculty
12	Rhythm Identification	Paramedic Faculty
13	Rhythm Identification	Paramedic Faculty
14	Rhythm Identification	Paramedic Faculty
15	12 Lead EKG	Paramedic Faculty
16	Cardiovascular Emergencies	Paramedic Faculty
17	Cardiovascular Emergencies	Paramedic Faculty
18	Cardiovascular Emergencies	Paramedic Faculty
19	Cardiovascular Emergencies	Paramedic Faculty
20	Cardiac Skills	Paramedic Faculty
21	Cardiac Skills	Paramedic Faculty
22	Cardiac Skills	Paramedic Faculty
23	Cardiac Skills	Paramedic Faculty
24	BLOCK EXAM	Paramedic Faculty
25	Neurologic Emergencies	Paramedic Faculty
26	Respiratory Emergencies	Paramedic Faculty
27	Environmental Emergencies	Paramedic Faculty
28	GI/GU Emergencies	Paramedic Faculty
29	Endocrine Emergencies	Paramedic Faculty
30	Medical Patient Assessment	Paramedic Faculty
31	Medical Patient Assessment	Paramedic Faculty
32	Medical Patient Assessment Skills	Paramedic Faculty
33	Medical Patient Assessment Skills	Paramedic Faculty
34	FINAL BLOCK EXAM	Paramedic Faculty