

MASTER SYLLABUS

EMS 2912 EMS Operations August, 2017

INSTRUCTOR: DENLEY **OFFICE LOCATION: AHB**
OFFICE HOURS: As posted **PHONE: 662.621.4049**
CLASS TIME(S)/SECTIONS: M-R 8A-4P **EMAIL: LDENLEY@COAHOMACC.EDU**

Course Description: This course teaches the leadership skills necessary to manage complex situations including patient care, management of the hazardous and crime scene, supervision, mentoring, and leading other personnel. (2 sch: 1-hr lecture, 2-hr lab)

Textbook(s) and Material(s): Brady Paramedic Care: Principles and Practice 5th ed. Volume 5 (2017)

Student Learning Outcomes:

Upon completion of this course, the student will be able to do the following:

1. Discuss the principles of assessment based management to perform an appropriate assessment and implement the management plan for patients with common complaints. (EMS1, EMS2, EMS3, EMS4, EMS5, EMS7, EMS8, EMS9, EMS10, EMS11, EMS12, EMS13, EMS14)
 - a. Explain how effective assessment is critical to clinical decision making.
 - b. Explain how the paramedic's attitude affects assessment and decision making.
 - c. Explain how uncooperative patients affect assessment and decision making.
 - d. Explain strategies to prevent labeling and tunnel vision.
 - e. Develop strategies to decrease environmental distractions.
 - f. Describe how man power considerations and staffing configurations affect assessment and decision making.
 - g. Synthesize concepts of scene management and choreography to simulated emergency calls.
 - h. Explain the roles of the team leader and the patient care person.
 - i. Explain the rationale for carrying the essential patient care items.
 - j. When given a simulated call, list the appropriate equipment to be taken to the patient.
 - k. Explain the general approach to the emergency patient.
 - l. Explain the general approach, patient assessment, differentials, and management priorities for patients with the following problems:
 - (1) Chest pain

	<ul style="list-style-type: none"> (2) Medical and traumatic cardiac arrest (3) Acute abdominal pain (4) GI bleed (5) Altered mental status (6) Dyspnea (7) Syncope (8) Seizures (9) Environmental or thermal problem (10) Hazardous material or toxic exposure (11) Trauma or multi-trauma patients (12) Allergic reactions (13) Behavioral problems (14) Obstetric or gynecological problems (15) Pediatric patients
m.	Describe how to effectively communicate patient information face to face, over the telephone, by radio, and in writing.
n.	Utilize scenarios to develop high level clinical decision-making skills.
o.	Defend the importance of considering differentials in patient care.
p.	Practice the process of complete patient assessment on all patients.
q.	Recognize the importance of presenting the patient accurately and clearly.
2.	Perform as a team leader. (EMS1, EMS2, EMS3, EMS4, EMS5, EMS7, EMS8, EMS9, EMS10, EMS11, EMS12, EMS13, EMS14) <ul style="list-style-type: none"> a. Organize the EMS response team. b. Perform a patient assessment. c. Provide local/regionally appropriate treatment. d. Present cases verbally and in writing given a moulaged and programmed simulated patient.
3.	Perform as a team member. (EMS1, EMS2, EMS3, EMS4, EMS5, EMS7, EMS8, EMS9, EMS10, EMS11, EMS12, EMS13, EMS14) <ul style="list-style-type: none"> a. Assess a programmed patient or mannequin. b. Consider differentials. c. Make decisions relative to interventions and transportation. d. Provide the interventions, patient packaging, and transportation. e. As a team, practice various roles for the following common emergencies. <ul style="list-style-type: none"> (1) Chest pain (2) Cardiac arrest (3) Traumatic arrest (4) Medical arrest (5) Acute abdominal pain (6) GI bleed (7) Altered mental status (8) Dyspnea (9) Syncope (10) Seizure (11) Thermal/ environmental problem (12) Hazardous materials/toxicology

- (13) Trauma
 - (a) Isolated extremity fracture (tibia/fibula or radius/ulna)
 - (b) Femur fracture
 - (c) Shoulder dislocation
 - (d) Clavicular fracture or A-C separation
 - (e) Minor wound (no sutures required, sutures required, high risk wounds, with tendon and/or nerve injury)
 - (f) Spine injury (no neurologic deficit, with neurologic deficit)
 - (g) Multiple trauma-blunt
 - (h) Penetrating trauma
 - (i) Impaled object
 - (j) Elderly fall
 - (k) Athletic injury
 - (l) Head injury (concussion, subdural/epidural)
- (14) Allergic reactions/bites/envenomation
 - (a) Local allergic reaction
 - (b) Systemic allergic reaction
 - (c) Envenomation
- (15) Behavioral
 - (a) Mood disorders
 - (b) Schizophrenic and delusional disorders
 - (c) Suicidal
- (16) Obstetrics/gynecology
 - (a) Vaginal bleeding
 - (b) Childbirth (normal and abnormal)
- (17) Pediatric
 - (a) Respiratory distress
 - (b) Fever
 - (c) Seizures

4. Explain the principles of rescue awareness and operations to safely rescue a patient from water, hazardous atmospheres, trenches, highways, and hazardous terrain. (EMS1, EMS14)
 - a. Define the term rescue.
 - b. Explain the medical and mechanical aspects of rescue situations.
 - c. Explain the role of the paramedic in delivering care at the site of the injury, continuing through the rescue process and to definitive care.
 - d. Describe the phases of a rescue operation.
 - e. Describe the types of personal protective equipment needed to safely operate in the rescue environment to include the following:
 - (1) Head protection
 - (2) Eye protection
 - (3) Hand protection
 - (4) Personal flotation devices
 - (5) Thermal protection/layering systems
 - (6) High visibility clothing
 - (7) Specialized footwear
 - f. Explain the differences in risk between moving water and flat water rescue.

- g. Explain the effects of immersion hypothermia on the ability to survive sudden immersion and self-rescue.
- h. Explain the phenomenon of the cold protective response in cold water drowning situations.
- i. Identify the risks associated with low head dams and the rescue complexities they pose.
- j. Given a picture of moving water, identify and explain the following features and hazards associated with the following:
 - (1) Hydraulics
 - (2) Strainers
 - (3) Dams/hydro-electric sites
- k. Explain why water entry or go techniques are methods of last resort.
- l. Explain the rescue techniques associated with reach-throw-row-go.
- m. Given a list of rescue scenarios, identify the victim survivability profile and which are rescue versus body recovery situations.
- n. Explain the self-rescue position if unexpectedly immersed in moving water.
- o. Given a series of pictures, identify which would be considered “confined spaces” and potentially oxygen deficient.
- p. Identify the hazards associated with confined spaces and risks posed to potential rescuers to include the following:
 - (1) Oxygen deficiency
 - (2) Chemical/toxic exposure/explosion
 - (3) Engulfment
 - (4) Machinery entrapment
 - (5) Electricity
- q. Identify components necessary to ensure site safety prior to confined space rescue attempts.
- r. Identify the poisonous gases commonly found in confined spaces to include the following:
 - (1) Hydrogen sulfide (H₂S)
 - (2) Carbon dioxide (CO₂)
 - (3) Carbon monoxide (CO)
 - (4) Low/high oxygen concentrations (FiO₂)
 - (5) Methane (CH₄)
 - (6) Ammonia (NH₃)
 - (7) Nitrogen dioxide (NO₂)
- s. Explain the hazard of cave-in during trench rescue operations.
- t. Describe the effects of traffic flow on the highway rescue incident including limited access super highways and regular access highways.
- u. Describe the following techniques to reduce scene risk at highway incidents:
 - (1) Apparatus placement
 - (2) Headlights and emergency vehicle lighting
 - (3) Cones, flares
 - (4) Reflective and high visibility clothing
- v. Describe the hazards associated with the following auto/truck components:
 - (1) Energy absorbing bumpers

- (2) Air bag/supplemental restraint systems
- (3) Catalytic converters and conventional fuel systems
- (4) Stored energy
- (5) Alternate fuel systems
- w. Given a diagram of a passenger auto, identify the following structures:
 - (1) A, B, C, D posts
 - (2) Fire wall
 - (3) Unibody versus frame designs
- x. Describe methods for emergency stabilization using rope, cribbing, jacks, spare tire, and come-a-longs for vehicles found on the following:
 - (1) Wheels
 - (2) Side
 - (3) Roof
 - (4) Inclines
- y. Describe the electrical hazards commonly found at highway incidents (above and below ground).
- z. Explain the difference between tempered and safety glass, identify its locations on a vehicle, and discuss how to break it safely.
- aa. Explain typical door anatomy and methods to access through stuck doors.
- bb. Explain SRS or “air bag” systems and methods to neutralize them.
- cc. Define the following terms:
 - (1) Low angle
 - (2) High angle
 - (3) Belay
 - (4) Rappel
 - (5) Scrambling
 - (6) Hasty rope slide
- dd. Describe the procedure for Stokes litter packaging for low angle evacuations.
- ee. Explain the procedures for low angle litter evacuation to include the following:
 - (1) Anchoring
 - (2) Litter/rope attachment
 - (3) Lowering and raising procedures
- ff. Explain techniques to be used in non-technical litter carries over rough terrain.
- gg. Explain non-technical high angle rescue procedures using aerial apparatus.
- hh. Develop specific skill in emergency stabilization of vehicles and access procedures and an awareness of specific extrication strategies.
- ii. Explain assessment procedures and modifications necessary when caring for entrapped patients.
- jj. List the equipment necessary for an “off road” medical pack.
- kk. Explain specific methods of improvisation for assessment, spinal immobilization, and extremity splinting.
- ll. Explain the indications, contraindications, and methods of pain control for entrapped patients.
- mm. Explain the need for and techniques of thermal control for entrapped patients.
- nn. Explain the pathophysiology of “crush trauma” syndrome.
- oo. Develop an understanding of the medical issues involved in providing care for a

	patient in a rescue environment.
pp.	Develop proficiency in patient packaging and evacuation techniques that pertain to hazardous or rescue environments.
qq.	Explain the different types of “Stokes” or basket stretchers and the advantages and disadvantages associated with each.
rr.	Using cribbing, ropes, lifting devices, spare tires, chains, and hand winches, demonstrate the following stabilization procedures: <ul style="list-style-type: none"> (1) Stabilization on all four wheels (2) Stabilization on its side (3) Stabilization on its roof (4) Stabilization on an incline/embankments
ss.	Using basic hand tools, demonstrate the following: <ul style="list-style-type: none"> (1) Access through a stuck door (2) Access through safety and tempered glass (3) Access through the trunk (4) Access through the floor (5) Roof removal (6) Dash displacement/roll-up (7) Steering wheel/column displacement (8) Access through the roof
tt.	Demonstrate methods of “Stokes” packaging for patients being the following: <ul style="list-style-type: none"> (1) Vertically lifted (high angle) (2) Horizontally lifted (low angle) (3) Carried over rough terrain
uu.	Demonstrate methods of packaging for patients being vertically lifted without Stokes litter stretcher packaging.
vv.	Demonstrate the following litter carrying techniques: <ul style="list-style-type: none"> (1) Stretcher lift straps (2) “Leap frogging” (3) Passing litters over and around obstructions
ww.	Demonstrate litter securing techniques for patients being evacuated by aerial apparatus.
xx.	Demonstrate in-water spinal immobilization techniques.
yy.	Demonstrate donning and properly adjusting a PFD.
zz.	Demonstrate use of a throw bag.
5. Analyze hazardous materials emergencies, call for appropriate resources, and work in the cold zone. (EMS1, EMS14)	
a.	Explain the role of the paramedic/EMS responder in terms of the following: <ul style="list-style-type: none"> (1) Incident size-up (2) Assessment of toxicologic risk (3) Appropriate decontamination methods (4) Treatment of semi-decontaminated patients (5) Transportation of semi-decontaminated patients
b.	Recognize a hazardous materials (haz-mat) incident, and determine the following: <ul style="list-style-type: none"> (1) Potential hazards to the rescuers, public, and environment (2) Potential risk of primary contamination to patients

- (3) Potential risk of secondary contamination to rescuers
- c. Identify resources for substance identification, decontamination, and treatment information including the following:
 - (1) Poison control center
 - (2) Medical control
 - (3) Material safety data sheets (MSDSs)
 - (4) Reference textbooks
 - (5) Computer databases (CAMEO)
 - (6) CHEMTREC
 - (7) Technical specialists
 - (8) Agency for toxic substances and disease registry
 - (9) Primary contamination risk
 - (10) Secondary contamination risk
 - (11) Describe the following routes of exposure:
 - (a) Topical
 - (b) Respiratory
 - (c) Gastrointestinal
 - (d) Parenteral
- d. Explain the following toxicologic principles:
 - (1) Acute and delayed toxicity
 - (2) Route of exposure
 - (3) Local versus systemic effects
 - (4) Dose response
 - (5) Synergistic effects
- e. Explain how the substance and route of contamination alters triage and decontamination methods.
- f. Explain the limitations of field decontamination procedures.
- g. Explain the use and limitations of personal protective equipment (PPE) in hazardous material situations.
- h. Explain the common signs, symptoms, and treatment for the following substances:
 - (1) Corrosives (acids/alkalis)
 - (2) Pulmonary irritants (ammonia/chlorine)
 - (3) Pesticides (carbamates/organophosphates)
 - (4) Chemical asphyxiants (cyanide/carbon monoxide)
 - (5) Hydrocarbon solvents (xylene, methylene chloride)
- i. Explain the potential risk associated with invasive procedures performed on contaminated patients.
- j. Given a contaminated patient, determine the level of decontamination necessary and the following:
 - (1) Level of rescuer PPE
 - (2) Decontamination methods
 - (3) Treatment
 - (4) Transportation and patient isolation techniques
- k. Identify local facilities and resources capable of treating patients exposed to hazardous materials.
- l. Determine the hazards present to the patient and paramedic given an incident

- involving hazardous materials.
- m. Explain the importance of the following to the risk assessment process:
- (1) Boiling point
 - (2) Flammable/ explosive limits
 - (3) Flash point
 - (4) Ignition temperature
 - (5) Specific gravity
 - (6) Vapor density
 - (7) Vapor pressure
 - (8) Water solubility
 - (9) Alpha radiation
 - (10) Beta radiation
 - (11) Gamma radiation
- n. Define the toxicologic terms and their use in the risk assessment process:
- (1) Threshold limit value (TLV)
 - (2) Lethal concentration and doses (LD)
 - (3) Parts per million/billion (ppm/ppb)
 - (4) Immediately dangerous to life and health (IDLH)
 - (5) Permissible exposure limit (PEL)
 - (6) Short term exposure limit (TLV-STEL)
 - (7) Ceiling level (TLV-C)
- o. Given a specific hazardous material, be able to do the following:
- (1) Research the appropriate information about its physical and chemical characteristics and hazards.
 - (2) Suggest the appropriate medical response.
 - (3) Determine risk of secondary contamination.
- p. Determine the factors that determine where and when to treat a patient to include the following:
- (1) Substance toxicity
 - (2) Patient condition
 - (3) Availability of decontamination
- q. Determine the appropriate level of PPE to include the following:
- (1) Types, application, use, and limitations
 - (2) Use of chemical compatibility chart
- r. Explain decontamination procedures when functioning in the following modes:
- (1) Critical patient rapid two-step decontamination process
 - (2) Non-critical patient eight-step decontamination process
- s. Explain specific decontamination procedures.
- t. Explain the four most common decontamination solutions used to include the following:
- (1) Water
 - (2) Water and tincture of green soap
 - (3) Isopropyl alcohol
 - (4) Vegetable oil
- u. Identify the areas of the body difficult to decontaminate to include the following:
- (1) Scalp/hair

	<ul style="list-style-type: none"> (2) Ears/ear canals/nostrils (3) Axilla (4) Finger nails (5) Navel (6) Groin/buttocks/genitalia (7) Behind knees (8) Between toes, toe nails
v.	<p>Explain the medical monitoring procedures of hazardous material team members to be used both pre- and post-entry, to include the following:</p> <ul style="list-style-type: none"> (1) Vital signs (2) Body weight (3) General health (4) Neurologic status (5) ECG
w.	<p>Explain the factors that influence the heat stress of hazardous material team personnel to include the following:</p> <ul style="list-style-type: none"> (1) Hydration (2) Physical fitness (3) Ambient temperature (4) Activity (5) Level of PPE (6) Duration of activity
x.	<p>Explain the documentation necessary for haz-mat medical monitoring and rehabilitation operations, including the following:</p> <ul style="list-style-type: none"> (1) The substance (2) The toxicity and danger of secondary contamination (3) Appropriate PPE and suit breakthrough time (4) Appropriate level of decontamination (5) Appropriate antidote and medical treatment (6) Transportation method
y.	Given a simulated hazardous substance, use reference material to determine the appropriate actions.
z.	Integrate the principles and practices of hazardous materials response in an effective manner to prevent and limit contamination, morbidity, and mortality.
aa.	Demonstrate the donning and doffing of appropriate PPE.
bb.	Demonstrate an emergency two step decontamination process.
cc.	Demonstrate an eight-step decontamination process.
6.	<p>Outline the human hazard of crime and violence and the safe operation at crime scenes and other emergencies. (EMS1, EMS14)</p> <ul style="list-style-type: none"> a. Explain how EMS providers are often mistaken for the police. b. Explain specific techniques for risk reduction when approaching the following types of routine EMS scenes: <ul style="list-style-type: none"> (1) Highway encounters (2) Violent street incidents (3) Residences and “dark houses” c. Describe warning signs of potentially violent situations.

<ul style="list-style-type: none"> d. e. f. g. h. 	<p>Explain emergency evasive techniques for potentially violent situations, including the following:</p> <ul style="list-style-type: none"> (1) Threats of physical violence (2) Fire arms encounters (3) Edged weapon encounters <p>Explain EMS considerations for the following types of violent or potentially violent situations:</p> <ul style="list-style-type: none"> (1) Gangs and gang violence (2) Hostage/sniper situations (3) Clandestine drug labs (4) Domestic violence (5) Emotionally disturbed people (6) Hostage/sniper situations <p>Explain the following techniques:</p> <ul style="list-style-type: none"> (1) Field “contact and cover” procedures during assessment and care (2) Evasive tactics (3) Concealment techniques <p>Describe police evidence considerations and techniques to assist in evidence preservation.</p> <p>Demonstrate the following techniques:</p> <ul style="list-style-type: none"> (1) Field “contact and cover” procedures during assessment and care (2) Evasive tactics (3) Concealment techniques
<ul style="list-style-type: none"> a. b. c. d. e. f. 	<p>7. Discuss the following diverse types of ambulance services and how this affects the delivery of advanced pre-hospital care: ^(EMS14)</p> <ul style="list-style-type: none"> a. Municipal b. Private c. Volunteer d. Hospital based e. Third service f. Other
<ul style="list-style-type: none"> a. b. c. d. e. f. g. 	<p>8. Demonstrate the necessary qualities of a paramedic supervisor including the following: ^(EMS1)</p> <ul style="list-style-type: none"> a. Organizational skills b. Interpersonal skills <ul style="list-style-type: none"> (1) Verbal skills (2) Written skills c. Conflict/dispute resolution d. Privacy and confidentiality e. Mentorship f. Financial responsibility g. Education of other health-care providers
<ul style="list-style-type: none"> a. b. 	<p>9. Discuss how regulations and rules affect the paramedic in delivering care including the following: ^(EMS1)</p> <ul style="list-style-type: none"> a. Federal regulations and rules b. State regulations and rules

c.	Regional regulations and rules
d.	Local regulations and rules
10. Describe how to influence the modification of the regulations and rules that affect the paramedic including the following: ^(EMS1)	
a.	How a bill becomes a law
b.	National, state, and local organizational influence on current and new regulations
c.	Ambulance and fire industry's influence on current and new regulations
d.	The local government's influences on current and new regulations

Attendance:

Absence from Class for School Sanctioned Activities

The nature of the educational programs at Coahoma Community College is such that it is necessary for every student to attend class regularly. Instructors will keep accurate class attendance records, and those records will become part of the student's official record. Regular class attendance and punctuality are expected. All arrangements for completing missed work are to be made with the instructor. It is the student's responsibility to initiate these arrangements. *Excessive absences may result in loss of credit for the course concerned as well as loss of grant refunds and/or financial aid eligibility.* For more information, see the Attendance Policy section in the College Catalog.

Make-up Policy:

The student will be allowed one (1) makeup exam for any major exam missed in a given semester. No additional makeup exams shall be given beyond this.

Academic Dishonesty:

Cheating and plagiarism (the representation of someone else's work as your own, usually by directly copying or paraphrasing without a reference to the original source) will not be tolerated. The penalty will be receiving a (0) for that assignment, without any possibility of make-up work or alternative assignments. Additionally, according to the Student Handbook, *such acts will be considered a severe infraction and carry a possible sanction of suspension in semester (s) length or expulsion.* For a more in-depth explanation of academic dishonesty, see the Student Handbook.

Electronic Devices in Class

The use of cellular phones, pagers, CD players, radios, and similar devices is prohibited in the classroom and laboratory facilities.

Non-Discrimination/Disability Policy:

Notice of Non-discrimination. Coahoma Community College does not discriminate on the basis of race, color, national origin, sex, disability, or age in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Michael Houston ; Coordinator for Section 504/ADA, Title IX; Vivian M. Presley Administration Bldg, 3240 Friars Point Road; Clarksdale, MS 38614; Telephone # (662) 621-4853; Email: mhouston@coahomacc.edu

Accommodations for Students with Disabilities.

Disability Support Services Coordinator has established open hours when students, staff and faculty may drop in without an appointment. Appointments can be made by call (662) 621-4853 or by email to mhouston@coahomacc.edu

Michael Houston

Disability Support Services Coordinator
Vivian M. Presley Administration Building
(662) 621-4853
mhouston@coahomacc.edu

Instructional Techniques:

Instructors may use many different methods of instruction, to include power-point, video presentations, hands-on participation in the skills lab and any other training aid the instructor feels would benefit the student, given the material being presented at that time, provided there is no unnecessary exposure of the student to risk.

Method(s) of Evaluation:

Didactic and psychomotor examinations at regular intervals throughout each semester. Such evaluations will be a direct measurement of the students' level of retention of the material. *(Method(s) of evaluation must measure the student learning outcomes listed above.)*

Grade Scale:

Coahoma Community College changed from the 3.0 system to the 4.0 system effective, September, 1974. College students' academic progress is evaluated according to the following grading system.

Grading Scale for Paramedic		
Grade	Scale	Quality Points
A – Excellent	95-100	4.0
B – Good	87-94	3.0
C – Average	80 -86	2.0
D – Poor	70-79	1.0

F - Failure	69 or below	0.0
I – Incomplete		0.0
W – Withdrawal		0.0
Z – Unassigned Grade		0.0
Failure to attain a course grade of “C” or 80% will prevent the student from progressing to the next scheduled semester in the Paramedic Program. 80% will be considered the “cut score” for all major assignments.		

To be in good academic standing, students are required to maintain a cumulative 2.0 average on the 4.0 system. Each grade reported as having been earned by the student at the end of a semester or summer term will be included in computing the cumulative grade point average. The student should observe that the grade “F” carries zero quality points and will be included in the computation. For more information on the Coahoma Community College Grade Scale, students should see the College Catalog.

COURSE OUTLINE
EMS 2912
EMS Operations
August, 2017

9	Ground Ambulance Operations	
10	Air Medical Operations	
	Opportunity for test	
11	MCI and Incident Command/Management	
12	Rescue Awareness/ Operations	
	Opportunitu for test	
	MID TERM EXAM	
13	Hazardous Materials	
14	Crime Scene Awareness	
	Opportunity for test	
15	Rural EMS	
16	Terrorism Response	
	FINAL EXAM	

This outline is intended as a guideline for the course. The institution and the instructor reserve the right to make modifications in content, schedule, and requirements as necessary to enhance each student's educational experience and student learning outcomes.