EMT 310 - EMT-Paramedic I (Didactic) Course Outline

Approval Date:
Effective Date: 08/11/2017

SECTION A

Unique ID Number	CCC000525325
Discipline(s)	Emergency Medical Technologies
Division	Health Occupations
Subject Area	Emergency Medical Technician
Subject Code	EMT
Course Number	310
Course Title	EMT-Paramedic I (Didactic)
TOP Code/SAM Code	1251.00 - Emergency Medical Technology/Technician (EMT Paramedic)* / -
Rationale for adding this course to the curriculum	Hours Modification to align with Department of Transportation Standards (accrediting body)
Units	24
Cross List	*N/A*
Typical Course Weeks	30

Total Instructional Hours

	Contact Hours
Lecture	360.00
Lab	216.00
Activity	0.00
Work Experience	0.00
Outside of Class Hours	720.00

Total Contact Hours	576
Total Student Hours	1296
Open Entry/Open Exit	No
Maximum Enrollment	24
Grading Option	Letter Grade Only
Distance Education Mode of Instruction	

SECTION B

General Education Information:

SECTION C

Course Description

Repeatability May be repeated 0 times

Catalog Description The Emergency Medical Technician-P (Paramedic) I course is the first class, two semesters in length, of a four-semester course sequence that will teach pre-hospital emergency medical care at the advanced life support (ALS) level. Upon successful completion of this course, students will be eligible to enroll in EMT 311: Emergency Medical Technician-P (Paramedic) II. Letter grade only.

Schedule Description

SECTION D

Condition on Enrollment

1a. Prerequisite(s)

- EMT 95 or equivalent
- 2000 Hours of EMT work experience.
- HEOC 100 with a minimum grade of C or better or equivalent
- Current State of California EMT license in good standing

1b. Corequisite(s): *None*

1c. Recommended: *None*

1d. Limitation on Enrollment: *None*

SECTION E

Course Outline Information

1. Student Learning Outcomes:

A. Students must appropriately identify human medical/behavioral/trauma emergencies at the Paramedic level.
B. Students must appropriately choose treatment plans addressing specific medical, behavioral, and traumatic
C. Students must demonstrate proficiency in all EMT-P advanced life support skills as outlined by California Title 22.
D. Students must communicate effectively in oral and written form.

2. Course Objectives: Upon completion of this course, the student will be able to:

A. Understand the history, present function, and structure of the EMS system and how to operate under medical direction in order to provide effective patient care
B. Identify the primary roles and responsibilities of the paramedic, such as participating in quality improvement activities dentify the key components of the well-being of a paramedic (e.g., physical, mental, emotional, and spiritual), responses to stress (e.g., grief and loss, burnout, PTSD, etc.), how to effectively cope with stress, and proper illness and injury prevention
C. Identify the legal and ethical issues surrounding paramedic practice (e.g., Good Samaritan laws, negligence, etc.) and use appropriate procedures for obtaining patient consent or refusal for treatment and protecting patient confidentiality
D. Identify basic cellular structures, cell environments, and cellular adaptations and injuries
E. Identify factors that result in disease (e.g., genetics and familial factors)
F. Understand the body?s immune system, immune response, and acute/chronic cell inflammation, and variances in immunity and inflammation

G. Identify appropriate medical names, sources of drugs, properties/classifications of medications and their forms (e.g., solid, gaseous, and liquid), drug administration routes (percutaneous, enteral, and parenteral), and U.S. regulations surrounding pharmaceuticals
H. Understand the impact of pharmaceuticals on body systems
I. Understand body fluids, electrolytes, and their movement
J. Identify types of IV solutions and perform IV techniques appropriately
K. Perform enteral, parenteral, and inhalation medication administrations
L. Identify the physical and psychosocial changes that occur in humans across the lifespan
M. Demonstrate an ability to conduct an appropriate interview, including various methods for asking questions (open-ended, closed-ended, etc.) and the use of non-verbal and verbal skills in communication and rapport building
N. Establish and maintain an airway, oxygenate, and ventilate a patient
O. Conduct an appropriate patient assessment by performing a scene size up, gathering patient history information, conducting a focused physical examination, performing a detailed physical exam, and conducting an on-going physical exam
P. Understand the key components of critical thinking and decision-making in a given patient care situation
Q. Understand the key components of communication and documentation
R. Correctly identify the anatomy associated with, pathophysiology of, injury mechanisms for, consequences of, and appropriate procedures for assessment, treatment, and transport for each of the following classifications of traumatic emergencies: A. Bleeding and Shock B. Soft-Tissue Injuries C. Burns D. Head & Face Injuries (e.g., face injuries, eye injuries, oral and dental emergencies, anterior neck injuries, or traumatic brain injuries) E. Spine Injuries F. Thoracic Injuries (e.g., chest wall, lung, myocardial, vascular) G. Abdominal Injuries H. Musculoskeletal Injuries
S. Correctly identify the anatomy associated with, pathophysiology of, consequences of, and appropriate procedures for assessment (initial and ongoing), treatment (initial and ongoing), and transport for each of the following classifications of medical emergencies: ?Respiratory ?Cardiovascular ?Neurologic ?Endocrine ?Allergic reactions ?Gastrointestinal ?Renal and urologic ?Toxicology: Substance abuse and poisoning ?Hematologic ?Environmental ?Infectious and communicable ?Behavioral ?Gynecologic ?Obstetrics
T. Integrate the unique pathophysiological factors associated with either the traumatic or medical condition of the neonatal, pediatric, geriatric, diverse (e.g., hearing impaired, visually impaired, paralyzed), or chronically ill patient along with assessment findings in order to formulate a field impression
U. Formulate a treatment plan for a pediatric, geriatric, diverse (e.g., hearing impaired, visually impaired, paralyzed), or chronically ill patient based upon the field impression
V. Implement and revise a treatment plan based upon a patient?s evolving condition, utilizing all appropriate skill sets
W. Understand the standards and guidelines that help ensure safe and effective ground and air medical transport
X. Understand the principals of general incident management and multiple casualty incident (MCI) management techniques in order to function effectively at major incidents
Y. Understand the principals of rescue awareness and operations in order to identify how to safely rescue a patient from conditions such as water, hazardous atmospheres, highways, etc.
Z. Understand the factors necessary to evaluate hazardous materials emergencies
AA. Understand the principals of safe operations in order to be prepared to work at crime scenes or other emergency scenes

BB. Complete and obtain the certification PALS
CC. Complete and obtain the certification ACLS
DD.

3. Course Content

The paramedic curriculum is designed to comply with the National Standard EMS Curicula set forth by the U.S. Department of Transportation (US DOT) National Emergency Medical Services. Course content at a minimum will include the following:

A. Preparatory:
    a. EMS systems, roles, and responsibilities
    b. The well-being of the paramedic
    c. Illness and injury prevention
    d. Medical and legal issues
    e. Ethical issues
    f. Pathophysiology
    g. Pharmacology
    h. Vascular access and medical administration
    i. Human development
    j. Patient communication
B. Airway Management and Ventilation:
    a. Airway management and ventilation
C. Patient Assessment:
    a. Patient history
    b. Physical examination
    c. Patient assessment
    d. Critical thinking and decision-making
    e. Communication and documentation
D. Trauma:
    a. Trauma systems and mechanisms of injury
    b. Bleeding and shock
    c. Soft-tissue injuries
    d. Burns
    e. Head and face injuries
    f. Spine injuries
    g. Thoracic injuries
    h. Abdomen injuries
    i. Musculoskeletal injuries
E. Medical:
    a. Respiratory emergencies
    b. Cardiovascular emergencies
    c. Neurologic emergencies
    d. Endocrine emergencies
    e. Allergic reactions
    f. Gastrointestinal emergencies
    g. Renal and urologic emergencies
    h. Toxicology: Substance abuse and poisoning
    i. Hematologic emergencies
    j. Environmental emergencies
    k. Infectious and communicable diseases
    l. Behavioral emergencies

m. Gynecologic emergencies
n. Obstetrics

F. Special Considerations:
   a. Neonatology
   b. Pediatrics
   c. Geriatrics
   d. Abuse, neglect, and assault
   e. Patients with special needs
   f. Acute interventions for the chronic care patient

G. Operations:
   a. Ambulance operations
   b. Medical incident command
   c. Terrorism and weapons of mass destruction
   d. Rescue awareness operations
   e. Hazardous materials incidents
   f. Crime scene awareness

H. Advanced Life Support Certificates
   a. Complete and obtain the certification PALS
   b. Complete and obtain the certification ACLS

Lab Content (Lab activities need to be detailed and compliment the lecture content of the course):

A. Communication: Students will practice radio reports, bedside reports, hand-off's, and verbal communication techniques necessary for the previous items.
B. IV Access: Students will practice cannulating pediatric and adult vasculature, for intravenous access, on manikins designed for this activity.
C. IO Access: Students will practice intraosseous access on pediatric and adult manikins designed for this activity.
D. ECG Interpretation: Students will be given 12 lead and 3 lead rhythm strips in both dynamic and table top exercises to determine the proper interpretation and treatment plans.
E. Electrical Therapy: Students will practice cardioversion, defibrillation, and pacing techniques on manikins and monitors designed for student use.
F. Medication Administration: Students will practice medication calculations, administration, and preparation.
G. Scenario's: Students will practice patient assessment, treatment, and transport decision making for all medical and trauma specific modules in a scenario format. Students will be grouped in "crews" to simulate professional practice and typically available resources.
H. Airway Management: Students will practice basic and advanced airway skills on manikins designed for this purpose. This will include but not be limited to the following:
   a. Intubation
   b. BVM use
   c. OPA/ NPA
   d. NRBM and Nasal Cannula
   e. King & Combi-tube Airways

f. Pediatric Intubation
g. Crichothyrotomy
h. Needle Decompression
i. Suctioning
j.

4. Methods of Instruction:

Discussion:

Lecture:

Other: 1. Demonstration: Demonstrations covering skills techniques, medication administration, patient assessment, and communication. 2. Critique: Oral or written group critiques analyzing finished examples of student work related to specific course assignments. 3. Lectures: Image and video-enhanced lectures covering core concepts, terminology, and historical development of paramedicine followed by small-group discussions on the same topics. 4. Collaborative Learning: Peer critiques reinforcing students? capacity to think critically about course assignments and enhance their ability to explain the results of this analysis to other students. 5. Skills Lab: Instructor-guided lab time to apply concepts and skills to course content through guided exercises. Lab time will include both one-on-one and small-group instruction. 6. Class Trips: Students in this course will observe different clinical and field applications of paramedicine by visiting CHP, Flight Ambulance Services, and Rural Zoned Advanced Life Support companies. This will expand the students knowledge of the challenges faced in these non-typical roles held by Paramedics.

5. Methods of Evaluation: Describe the general types of evaluations for this course and provide at least two, specific examples.

Typical classroom assessment techniques

Exams/Tests --
Quizzes --
Final Exam --

Additional assessment information:

1. Manipulative Assessments:
There are skill sets the student must perform proficiently per State of California Title 22 and U.S. Department of Transportation established standards to pass this course. The sets will include but may not be limited to:
?Bleeding control/shock management
?Dual lumen airway device (combitube or PtL)
?Dynamic cardiology
?Intravenous therapy
?Intravenous bolus medications
?Patient assessment - medical
?Patient assessment - trauma
?Pediatric intraosseous infusion
?Pediatric (
?Spinal immobilization (seated patient)
?Spinal Immobilization (supine patient)
?Static cardiology
?Ventilatory management - adult
For Example: Students will be asked to demonstrate the proper sequence of starting an IV. Critical failures will include unsafe
handling of the needle, improper disposal of the sharps, lack of PPE, and not releasing the tourniquet upon completion of cannulation.
3. Quizzes:

There will be short in-class quizzes, which may be composed of a combination of multiple choice, short-answer, and true/false questions. The purpose of these quizzes is to allow the student to assess their strong and weak areas in relation to the subject matter and better prepare for the mid-term and final exams.

4. Mid-Term Examinations:

A minimum of two mid-term examinations will be given to assess the student's command and understanding of course material.

The mid-terms may composed of a combination of multiple-choice, short-answer, true/false questions, and skill set assessments.

5. Final Examination:

The final exam may consist of a combination of multiple-choice, short-answer, true/false questions, and simulation exercises. The

simulation exercises are designed to test the student's ability to integrate the course's didactic and skill set components in order to

assess the patient, formulate a treatment plan, and deliver care based on the patient's evolving condition in the pre-hospital setting.

For example:

I. On the scene of a motor vehicle crash, you find a man who owns up to not wearing a seat belt. During your assessment, you observe significant bruising. You suspect the patient has a pericardial tamponade. Which one of the following is not a sign of Beck's triad.

A. Hypotension

B. Jugular vein distension (JVD)

C. Muffled heart tones

D. Hyperresonant chest sounds

II. On examination, a child's pulse is 160 beats/min and somewhat weak, respirations are 52 breaths/min and shallow, and blood pressure is 90/60 mm Hg on exhalation and 50 systolic during inhalation. The lips look bluish. There is retraction of the neck muscles. The chest does not seem to move with respiration, and it sounds like an empty barrel when you tap on it. You can hardly hear any breath sounds at all. On the child's wrist is a Medic Alert bracelet inscribed "asthmatic." List at least five signs that suggest this child is having a very serious asthma attack.

III. Based upon the scenario above, describe the steps you would take in managing this case.

6. Completion of Homework Assignments

7. Completion of Written Evidenced Base Practice Projects.

For Example:

Please provide a 2-3 page report on pediatric trauma within rural communities and discuss the challenges of finding adequate resources to handle these cases. Please follow APA format and use at least 2 peer reviewed journals as a reference.

Letter Grade Only

6. Assignments: State the general types of assignments for this course under the following categories and provide at least two specific examples for each section.

A. Reading Assignments

For Example:

a. Chapter 3: Patient Assessment

-Patient history

-Physical examination

-Patient assessment

-Critical thinking and clinical decision-making

-Communication and documentation

b. Choose a peer reviewed EMS journal and choose an article dealing with rural EMS systems. Be prepared to discuss at the next class meeting.

B. Writing Assignments

I. Patient Care Reports

For example:

Prepare a PCR for the respiratory distress patient discussed in your scenario station.

II. Performance Exercises:

For example:

1. Skill Sets:

There are skill sets the student must perform proficiently per State of California Title 22 and U.S. DOT established standards to pass
this course. The sets will include but may not be limited to:

?Bleeding control/shock management
?Dual lumen airway device (combitube or PtL)
?Dynamic cardiology
?Intravenous therapy
?Intravenous bolus medications
?Patient assessment ? medical
?Patient assessment ? trauma
?Pediatric intraosseous infusion
?Pediatric (
?Spinal immobilization (seated patient)
?Spinal Immobilization (supine patient)
?Static cardiology
?Ventilatory management ? adult

2. Simulation Exercises:

Simulation exercises are designed to test the student?s ability to integrate the course?s didactic and kinesthetic components in order to
deliver appropriate pre-hospital patient care at the EMT-P level. An example of a scenario a student may be asked to address is:

Respond code 3 to a vehicle accident Hwy 29 at Yountville Crossroads for a 2 vehicle accident with 3 patients. One person has an open head injury, another has a tension pnuemothorax, and the third has a fractured mid-shaft femur. Triage and prioritize the treatment plan for these three individuals, organize the EMT-Is and first responders, conduct the treatment, reassess and evaluate the treatment, provide transport, and provide an oral report on the patients? condition to the Emergency Department. At the end of the simulation, you will give an oral report to the proctor explaining the logic and rationale behind the assessment you made and the treatment plan you developed and administered.

C. Other Assignments

1. Portfolio binder project and presentation.
2. Evidenced Based Research Paper

7. Required Materials

A. EXAMPLES of typical college-level textbooks (for degree-applicable courses) or other print materials.

Book #1:

Author:	Andrew N. Pollak, MD, FAAOS
Title:	Nancy Caroline's Emergency Care in the Streets
Publisher:	Jones & Bartlett Learning

Date of Publication: 2012
Edition: 7th

B. Other required materials/supplies.

- Uniform
- Lab Pack
- Fisdap Account