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Cardiopulmonary Resuscitation

This curriculum contains many of the knowledge and skill objectives of cardio-pulmonary resuscitation. In order to maintain an up-to-date curriculum, the didactic material has not been reproduced. Instructors must utilize the current American Heart Association Guidelines and teaching strategies as the basis for instruction in Module 2: Airway/CPR. Meeting the objectives of this program provides the EMT with the ability to perform CPR; but the program does not contain all of the prevention and recognition material within the guidelines established by the American Heart Association. During the program, if issuance of a CPR card is desirable or required, additional information must be added to the program. Testing and/or other course requirements for issuance of a specific agency's CPR card will need to be completed within the EMT Educational Program. Requirements for issuing a successful completion card may be obtained from the local CPR training agency.

Medical Direction Statement

Medical direction of the EMT is an essential component of prehospital education, and thus is included in this revised EMT curriculum. Physician involvement should be in place for all aspects of EMS educational programs, specifically for every ambulance service/rescue squad. On-line and/or off-line medical direction must be in place to allow for EMT to carry and assist with the administration of medications to patients.

Quality improvement is also a required component of EMS education. The role of medical direction is paramount in assuring the provision of highest quality prehospital care. Medical Directors should work with individuals and systems to review prehospital cases and strive to achieve a sound method of continuous quality improvement.

Curriculum

Course Goals

This instructor's course guide has been designed and developed to assist the course coordinator, instructors, and others in planning, managing and teaching the North Carolina Emergency Medical Technician Curriculum. The goals and objectives of this curriculum are to improve the quality of emergency medical care.

This course is designed to instruct a student to the level of Emergency Medical Technician who serves as a vital link in the chain of the health care team. It is recognized that the majority of prehospital emergency medical care will be provided by the EMT. This includes all skills necessary for the individual to provide emergency medical care at a basic life support level with an ambulance service or other specialized service. Specifically, after successful completion of the program, the student will be capable of performing the following functions at the minimum entry level:

- Recognize the nature and seriousness of the patient's condition or extent of injuries to assess requirements for emergency medical care;
- Administer appropriate emergency medical care based on assessment findings of the patient's condition;
- Lift, move, position and otherwise handle the patient to minimize discomfort and prevent further injury; and,
- Perform safely and effectively the expectations of the job description.

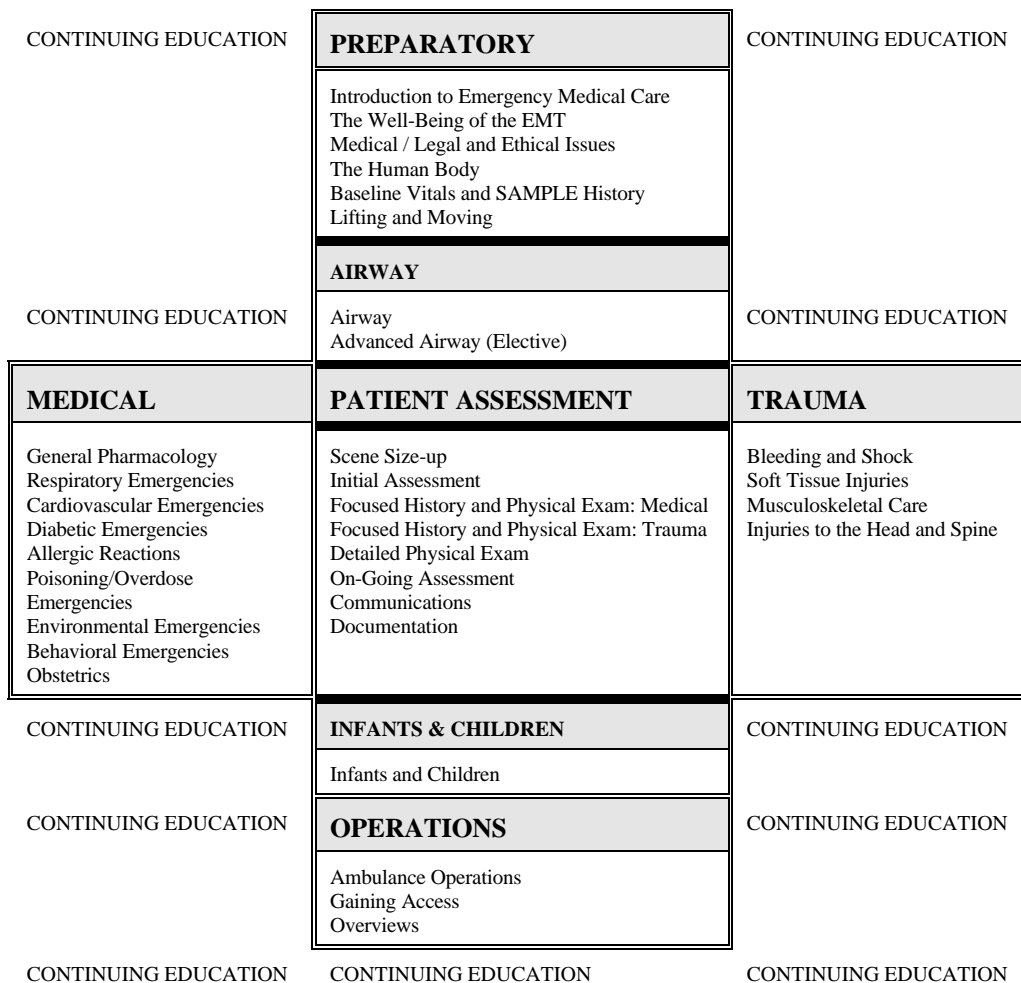
It is obvious that EMTs provide a service in an environment requiring special skills and knowledge in such areas as communications, transportation, and keeping records. They also serve as liaisons with other emergency services. This course provides an introduction to these concepts. Individual orientation to the specific systems and services with which the EMT will be affiliated is necessary to achieve a full level of competency.

On the following page is the diagram of the educational model. This is a graph representing the flow of the curriculum.

The model has the medical and trauma information on either side of patient assessment. The curriculum is designed to have the medical module presented after patient assessment and prior to the trauma module, however, this format may be altered.

The entire curriculum is surrounded by continuing education, which is designed to reflect two primary goals. First, during the instruction of the EMT Curriculum, additional continuing education in related content may be provided. Secondly, continuing education is an integral component of any educational process and the EMT should be committed to life-long learning.

DIAGRAM OF EDUCATIONAL MODEL



The following pages show the breakdown of hours and objectives for the Emergency Medical Technician-Basic: National Standard Curriculum. In this design there are 48 lessons in the core curriculum.

The name of each module is followed by the recommended time needed to complete the instruction. The cognitive, effective, psychomotor objectives and the total number of objectives for that lesson are provided. The percentage of cognitive and percentage of hours is based on the entire core curriculum. This information may prove to be beneficial in designing written and practical evaluation tools.

Course Design

Module 1: Preparatory

Lesson 1-1

Introduction to Emergency Medical Care

Familiarizes the EMT candidate with the introductory aspects of emergency medical care. Topics covered include the Emergency Medical Services system, roles and responsibilities of the EMT, quality improvement, and medical direction.

Lesson 1-2

Well-Being of the EMT

Covers the emotional aspects of emergency care, stress management, introduction to Critical Incident Stress Debriefing (CISD), scene safety, body substance isolation (BSI), personal protection equipment (PPE), and safety precautions that can be taken prior to performing the role of an EMT.

Lesson 1-3

Medical/Legal and Ethical Issues

Explores the scope of practice, ethical responsibilities, advance directives, consent, refusals, abandonment, negligence, duty to act, confidentiality, and special situations such as organ donors and crime scenes. Medical/legal and ethical issues are vital elements of the EMT's daily life.

Lesson 1-4

The Human Body

Enhances the EMT's knowledge of the human body. A brief overview of body systems, anatomy, physiology and topographic anatomy will be given in this session.

Lesson 1-5

Baseline Vital Signs and SAMPLE History

Teaches assessing and recording of a patient's vital signs and a SAMPLE history.

Lesson 1-6

Lifting and Moving Patients

Provides students with knowledge of body mechanics, lifting and carrying techniques, principles of moving patients, and an overview of equipment. Practical skills of lifting and moving will also be developed during this lesson.

Lesson 1-7

Evaluation: Preparatory Module

Conduct a written and skills evaluation to determine the student's level of achievement of the cognitive, psychomotor and affective objectives from this module of instruction.

Module 2: Airway/CPR

Lesson 2-1

Airway

Teaches airway anatomy and physiology, how to maintain an open airway, pulmonary resuscitation, variations for infants and children and patients with laryngectomies. The use of airways, suction equipment, oxygen equipment and delivery systems, and resuscitation devices will be discussed in this lesson.

Lesson 2-2

CPR

Teaches cardiopulmonary resuscitation for adults, children, and children based on AHA guidelines.

Lesson 2-3

Practical Skills Lab: Airway/CPR

Provides supervised practice for students to develop the psychomotor skills of airway care and cardiopulmonary resuscitation. The use of airways, suction equipment, oxygen equipment and delivery systems, and resuscitation devices will be included in this lesson.

Lesson 2-4

Evaluation: Airway/CPR Module

Conduct a written and skills evaluation to determine the student's level of achievement of the cognitive, psychomotor and affective objectives from this module of instruction.

Module 3: Patient Assessment

Lesson 3-1

Scene Size-Up

Enhance the EMT's ability to evaluate a scene for potential hazards, determine by the number of patients if additional help is necessary, and evaluate mechanism of injury or nature of illness. This lesson draws on the knowledge of Lesson 1-2.

Lesson 3-2

Initial Assessment

Provides the knowledge and skills to properly perform the initial assessment. In this session, the student will learn about forming a general impression, determining responsiveness, assessment of the airway, breathing and circulation. Students will also discuss how to determine priorities of patient care.

Lesson 3-3

Focused History and Physical Exam - Trauma Patients

Describes and demonstrates the method of assessing patients' traumatic injuries. A rapid approach to the trauma patient will be the focus of this lesson.

Lesson 3-4

Focused History and Physical Exam - Medical Patients

Describes and demonstrates the method of assessing patients with medical complaints or signs and symptoms. This lesson will also serve as an introduction to the care of the medical patient.

Lesson 3-5

Detailed Physical Exam

Teaches the knowledge and skills required to continue the assessment and treatment of the patient.

Lesson 3-6

On-Going Assessment

Stresses the importance of trending, recording changes in the patient's condition, and reassessment of interventions to assure appropriate care.

Lesson 3-7

Communications

Discusses the components of a communication system, radio communications, communication with medical direction, verbal communication, interpersonal communication, and quality improvement.

Lesson 3-8

Documentation

Assists the EMT in understanding the components of the written report, special considerations regarding patient refusal, the legal implications of the report, and special reporting situations. Reports are an important aspect of prehospital care. This skill will be integrated into all student practices.

Lesson 3-9

Practical Skills Lab: Patient Assessment

Integrates the knowledge and skills learned thus far to assure that the student has the knowledge and skills of assessment necessary to continue with the management of patients with medical complaints and traumatic injuries.

Lesson 3-10

Evaluation: Patient Assessment Module

Conduct written and skills evaluation to determine the student's level of achievement of the cognitive, psychomotor and affective objectives from this module of instruction.

Module 4: Medical/Behavioral Emergencies and Obstetrics/Gynecology

Lesson 4-1

General Pharmacology

Provides the student with a basic knowledge of pharmacology, providing a foundation for the administration of medications given by the EMT and those used to assist a patient with self-administration.

Lesson 4-2

Respiratory Emergencies

Reviews components of the lesson on respiratory anatomy and physiology. It will also provide instruction on assessment of respiratory difficulty and emergency medical care of respiratory problems, and the administration of prescribed inhalers.

Lesson 4-3

Cardiac Emergencies

Reviews of the cardiovascular system, an introduction to the signs and symptoms of cardiovascular disease, administration of a patient's prescribed nitroglycerin, cardiopulmonary resuscitation, and use of the automated external defibrillator.

Lesson 4-4

Diabetes/Altered Mental Status

Reviews of the signs and symptoms of altered level of consciousness, the emergency medical care

of a patient with signs and symptoms of altered mental status and a history of diabetes, and the administration of oral glucose.

Lesson 4-5

Allergies

Teaches the student to recognize the signs and symptoms of an allergic reaction, and to assist the patient with a prescribed epinephrine auto-injector.

Lesson 4-6

Poisoning/Overdose

Teaches the student to recognize the signs and symptoms of poisoning and overdose. Information on the administration of activated charcoal is also included in this section.

Lesson 4-7

Environmental Emergencies

Covers recognizing the signs and symptoms of heat and cold exposure, as well as the emergency medical care of these conditions. Information on aquatic emergencies and bites and stings will also be included in this lesson.

Lesson 4-8

Behavioral Emergencies

Develops the student's awareness of behavioral emergencies and the management of the disturbed patient. Restraining the combative patient will also be taught in this lesson.

Lesson 4-9

Obstetrics/Gynecology

Reviews the anatomical and physiological changes that occur during pregnancy, demonstrate normal and abnormal deliveries, summarize signs and symptoms of common gynecological emergencies, and neonatal resuscitation.

Lesson 4-10

Practical Skills Lab: Medical/Behavioral Emergencies and Obstetrics/Gynecology

Draws on the knowledge and skills learned thus far in this practical lab. Students will be given the opportunity to assess and treat a variety of patients with various medical complaints.

Lesson 4-11

Evaluation: Medical/Behavioral Emergencies and Obstetrics/Gynecology

Conducts a written and skills evaluation to determine the student's level of achievement of the cognitive, psychomotor and affective objectives from this module of instruction.

Module 5: Trauma

Lesson 5-1

Bleeding and Shock

Reviews the cardiovascular system, describes the care of the patient with internal and external bleeding, signs and symptoms of shock (hypoperfusion), and the emergency medical care of shock (hypoperfusion).

Lesson 5-2

Soft Tissue Injuries

Continues with the information taught in Bleeding and Shock, discussing the anatomy of the skin and the management of soft tissue injuries and the management of burns. Techniques of dressing and bandaging wounds will also be taught in this lesson.

Lesson 5-3

Musculoskeletal Care

Reviews of the musculoskeletal system before recognition of signs and symptoms of a painful, swollen, deformed extremity and splinting are taught in this section.

Lesson 5-4

Injuries to the Head and Spine

Reviews the anatomy of the nervous system and the skeletal system. Injuries to the spine and head, including mechanism of injury, signs and symptoms of injury, and assessment. Emergency medical care, including the use of cervical immobilization devices and short and long back boards will also be discussed and demonstrated by the instructor and students. Other topics include helmet removal and infant and child considerations.

Lesson 5-5

Practical Skills Lab: Trauma

Provides practice of the assessment and management of patients with traumatic injuries.

Lesson 5-6

Evaluation: Trauma Module

Conducts a written and skills evaluation to determine the student's level of achievement of the cognitive, psychomotor and affective objectives from this module of instruction.

Module 6: Infants and Children

Lesson 6-1

Infants and Children

Presents information concerning the developmental and anatomical differences in infants and

children, discuss common medical and trauma situations, and also covered are infants children dependent on special technology. Dealing with an ill or injured infant or child patient has always been a challenge for EMS providers.

Lesson 6-2

Practical Skills Lab: Infants and Children

Provides the EMT student with the opportunity to interact with infants and children, and to practice the knowledge and skills learned thus far concerning this special population.

Lesson 6-3

Evaluation: Infants and Children

Conduct a written and skills evaluation to determine the student's level of achievement of the cognitive, psychomotor and affective objectives from this module of instruction.

Module 7: EMS Operations

Lesson 7-1

Ambulance Operations

Presents an overview of the knowledge needed to function in the prehospital environment. Topics covered include responding to a call, emergency vehicle operations, transferring patients, and the phases of an ambulance call.

Lesson 7-2

Gaining Access

Provides the EMT student with an overview of rescue operations. Topics covered include roles and responsibilities at a crash scene, equipment, gaining access, and removing the patient.

Lesson 7-3

Overviews

Provides the EMT student with information on hazardous materials, incident management systems, mass casualty situations, and basic triage.

Lesson 7-4

Evaluation: EMS Operations

Conduct a written and skills evaluation will be done to determine the student's level of achievement of the cognitive, psychomotor and affective objectives from this module of instruction.

Module 8: Course Evaluations

Lesson 8-1

Module and Final Skills Evaluation

The North Carolina EMT curriculum requires that each student be evaluated on all module skills prior to being allowed to take the final skills examination. A form verifying this requirement is included in this module. Evaluation check sheets for the final skills examination are included in this module.

Lesson 8-2

Comprehensive Written Final Evaluation

A comprehensive written final examination is required for successful completion of this course.

Module 9: Clinical Education

Lesson 9-1

Clinical Education

The North Carolina EMT curriculum suggests a clinical education component. This requirement may be structured in a hospital clinical or field internship setting, or may consist of scenario based instruction.

How to Use the Curriculum and Lesson Plans

There are nine modules of instruction in the core content. There are 48 lessons within the nine modules. Each lesson has the following components:

Objectives

The objectives are divided into three categories: Cognitive, Affective, and Psychomotor.

Cognitive

thinking--

knowledge
comprehension

Affective

emotional response--

feelings
emotional intensity

Psychomotor

physical process--

physical movement
skilled activities application

To assist with the design and development of a specific lesson, each objective has a numerical value, e.g., 3-2.1. The first number is the module of instruction, followed by a hyphen and the number of the specific lesson. For example, 3-2.1 is:

Module 3:	Patient Assessment
Lesson 3-2:	The Initial Assessment
Objective 3-2.1	Summarize the reasons for forming a general impression of the patient. (C1)

At the end of each objective is a letter for the type of objective: C = Cognitive; A = Affective; and P = Psychomotor. (The example above is cognitive). The number following the type of objective represents the level of objective: 1 = Knowledge; 2 = Application; and 3 = Problem Solving. (The example above is knowledge).

Preparation

Motivation -- Each lesson has a motivational statement that should be read by the instructor prior to teaching the lesson. It is not the intent for the instructor to necessarily read the motivational statement to the students, but more importantly to be familiar with its content and to be able to prepare the students or explain why this is important.

Prerequisites

Prior to starting a lesson, the instructor should assure that the students have completed the necessary prerequisites.

Materials:

Audio Visual (AV) Equipment -- In recent years, high quality video materials have become available for the EMS community. They should be used as an integral part of the instruction in this program. The course administrator should assure that the necessary types of AV equipment are accessible for the class. If possible, the course administrator should have a video library available for the student.

Emergency Medical Services (EMS) Equipment -- Each lesson plan contains a list of equipment that should be available for instruction.

Personnel:

Primary Instructor
Assistant Instructor

The roles of the program personnel are discussed in more detail under Program Personnel.

Recommended Minimum Time to Complete

Each module has a recommended minimum time for completion. Although the time for each module has been pilot tested, due to the varying nature of adult learners, the enrichment and need for remediation may require additional time. Time limits may be extended to bring the students to the full level of competency.

Presentation

Declarative (What) -- This is the cognitive lesson plan. This is the information that the instructor provides the students. This may be accomplished by various methods, including lectures, small group discussion, and the use of audio-visual materials. Demonstrations, if the instructor desires, may be used as part of the instruction. The instructor must be well versed with the entire content of the lesson plan. It is not appropriate to read the lesson plans word for word to the students. Lesson plans should be considered dynamic documents that provide guidelines for the appropriate flow of information. The lesson plans are based upon changes in national standards and scientific evidence approved by the Course Medical Director. The instructor should feel free to write notes in the margins and make the lesson plan his own.

Application

Procedural (How) -- This is the skills portion of the program. The students should be able to

demonstrate competency in all skills listed in each section. If the declarative (what) content was presented as a lecture, the instructor must perform demonstrations prior to having the students perform the skills. If the instructor performed a demonstration as part of the declarative component, the students may begin by practicing skills in the practical setting. When this component of the lesson is being conducted, there should be one instructor for every six students.

Students should be praised for their progress. For those students having difficulty performing a skill or skills, remediation is required. It is well known that a demonstration must be followed by practice, which must be drilled to a level that assures mastery of the skill. It has been proven that demonstration followed as soon as possible by organized, supervised practice enhances mastery and successful applications.

Contextual (When, Where and Why) -- This section is designed to help the student understand the application of their knowledge and skills as they relate to their performance as an EMT. This section relates back to the motivational statement and represents the reasoning as to why, where and when the EMT would need to use the knowledge or perform the skills. It is of utmost importance that the instructor be familiar with the intent of this section and relay that intent to the students.

Student Activities

Students learn by various methods. The three types are auditory, visual and kinesthetic. The intent of this section is to assure that the content of the curriculum is presented to meet the needs of the three different types of learning styles. These three areas should not necessarily be used separately from the lesson plan, but as an adjunct to it. An attempt to provide instruction to the student with these three types of modalities will enhance student learning.

Auditory (Hear)

This section allows the instructor to provide material in a verbal manner. Those students who learn best by hearing will benefit from this method of instruction.

Visual (See)

This section allows the instructor to provide material in a visual manner. Visual learners will benefit from this method of instruction.

Kinesthetic (Do)

This section allows the instructor to provide material in a performance manner. Those students who learn best by doing will benefit from this method of instruction.

Instructor Activities

This section is to remind the instructors that they should always supervise student practice and

praise progress. They should reinforce student progress in cognitive, affective and psychomotor domains. If students are having difficulty understanding the content or performing the skills, the instructor should redirect the students. If additional time is needed to complete this task beyond the assigned times of the program, the instructor should complete a remediation form to remind him to schedule additional assistance for the student or group of students experiencing difficulty with the task.

Evaluation

Written -- The instructor should design and develop various quizzes, verbal reviews, handouts and any other desired materials for the students. Ideally, the instructor should provide a brief quiz after every lesson to determine if the students are comprehending the lesson.

Practical -- The instructor should provide students with practical evaluations when applicable. The skill sheets provided within the curriculum will assist the students in preparing for field performance and the final practical evaluation.

Remediation

The intent of this section is to assure that the instructor meets the needs of those students who are experiencing difficulty understanding the lesson plan. The Office of Emergency Medical Services requires that all courses shall have an approved remediation policy and plan in place. The policy and plan shall address the measures that will be taken by the teaching institution to evaluate and provide prescriptive educational resources to students not exhibiting required competencies at designated steps over the program/course. The plan and policy may be developed to apply to all EMS levels taught by an Approved Teaching Institution (both BLS and ALS level courses); to apply to one or more EMS certification levels (EMT, Medical Responder, or both), or to apply to a specific course. Developing specific policies shall be the responsibility of the Approved Teaching Institution. Assistance is available through the Office of Emergency Medical Services in developing remediation policies and plans.

At a minimum, remediation policies will identify:

1. How students will be evaluated during the course for didactic, psychomotor and affective competencies (describe both formative and non-formative evaluation measures that will be used).
2. The points in time students will be evaluated over materials.
3. The cut-off point(s) used to determine the mastery of required competencies/objectives.
4. The resources/support that will be provided for those students requiring such services.
5. The number of times students may re-test in order to demonstrate competencies.
6. The options for students if they fail to demonstrate competency(ies) within the designated time(s).

At a minimum, remediation plans should include a description of:

1. The times designated over the length of the course that will be provided for remedial services/support.
2. The resources, such as books, audiovisual, computer assisted, supplies, space, instructors, that will be provided for remedial services/support.
3. The evaluation instruments/process that will be used to establish competency(ies) upon completion of remedial support/services. (These can be the same as those used in initial competency evaluation.)

Remediation Sheets supplied in this guide will enable the instructor to keep track of those students. If a student requires remediation frequently a decision should be reached to determine if the student should continue in the program (see Appendix F for Remediation sheet)

Enrichment

This section is designed to allow the instructors, the course medical director, the course coordinator, the region, or state to add additional information, or augment the curriculum. Anything that is unique to your area should be added, for example, jellyfish injuries that are unique to coastal areas (see Appendix F).

Incorporating a Refresher Course into the Initial Course

Often, a teaching institution will desire to allow attendance at an initial course to meet the requirements of a refresher course. In order to ensure that all refresher objectives have been met within the initial course, each objective necessary for compliance with the refresher requirements have been identified in **bold** throughout each lesson. The instructor should inform those individuals desiring the refresher portion of the initial course of each session necessary to ensure completion of the refresher requirements.

Instructors

Assessing Student Achievement

This educational program includes several methods for assessing student achievement. As mentioned before, quizzes of the cognitive and psychomotor domains should be provided at the completion of each lesson. Time is allocated at the end of each module of instruction for a cognitive and psychomotor evaluation. The primary instructor in conjunction with the course coordinator is responsible for the design, development, administration and grading of all written and practical examinations. The program should feel free to use outside agency-approved psychomotor evaluation instruments or those found in texts. All written examinations used within the program should be valid and reliable and conform to psychometric standards. Instructors should be encouraged to use outside sources to validate examinations and/or as a source of classroom examination items.

The primary purpose of this course is to meet the entry-level job expectations as indicated in the job description. Each student, therefore, must demonstrate attainment of knowledge, attitude, and skills in each area taught in the course. It is the responsibility of the course coordinator, medical director, primary instructor and educational institution to assure that students obtain proficiency in each module of instruction before they proceed to the next area. If after counseling and remediation a student fails to demonstrate the ability to learn specific knowledge, attitudes and skills, the program director should not hesitate to dismiss the student. The level of knowledge, attitude and skills attained by a student in the program will be reflected in his performance on the job as an EMT. This is ultimately a reflection on the program director, primary instructor, medical director and educational institution. It is not the responsibility of the certifying examination to assure competency over successful completion of the course. Program directors should recommend only qualified candidates for licensure, certification or registration. Requirements for successful completion of the course are as follows:

- Cognitive -** Students must receive passing grades on all module examinations and the final examination. Special remedial sessions may be utilized to assist in the completion of a lesson or module of instruction. Scores should be in accordance with accepted practices.

- Affective -** Students must demonstrate conscientiousness and interest in the program. Students who fail to do so should be counseled while the course is in progress in order to provide them the opportunity to develop and exhibit the proper attitude expected of an EMT.

- Psychomotor -** Students must demonstrate proficiency in all skills in each testing session of selected topic areas and mastery of skills in the final examination. Special remedial sessions may be utilized to assist in the completion of a lesson or module of instruction. Pass/fail scores should be in accordance with accepted practices. Usage of the skill measurement instruments within this curriculum or developed by way of a valid process is strongly recommended to achieve maximum results with the students.

The additional areas that should be utilized for evaluation of student achievement include:

Personal appearance - Each student should be neat, clean, well groomed and physically fit enough to perform the minimal entry-level job requirements. Students who fail to exhibit good hygiene habits should be counseled while the program is in session to provide them with the opportunity to correct the habits.

Attendance - Students are encouraged to attend all lessons. At the discretion of the program director or designee, a student missing a lesson may demonstrate the fulfillment of all cognitive, affective, and psychomotor objectives covered in the missed lesson. Students not attending the minimum number of hours as required by the teaching institution are not eligible for successful course completion.

Clinical or Field Rotation / Scenario Experience - Prior to certification of course completion, satisfactory clinical or field experience as detailed in Module 9 is required by the student.

Program Personnel

There will often be a number of individuals involved in the presentation of the EMT program. For clarity, the following terms are defined as they will be used throughout this document.

These identified roles and responsibilities are a necessary part of each EMT course. The individuals carrying them out may vary from program to program and from locality to locality as the exact roles interface and overlap. In fact, one person, if qualified, may carry out all of the roles in some programs.

Program Director: An individual responsible for course planning, operation and evaluation. While the Program Director is responsible for the overall operation of the education experience, this person need not be qualified or involved in the actual instruction of specific course lessons. The Program Director is responsible for EMT course planning.

Course Coordinator: The Course Coordinator is the individual responsible for coordinating and conducting the EMT program. The Course Coordinator acts as the liaison between the students, the sponsoring agency, the local medical community and the state-level certifying or licensing agency and is responsible for assuring that the course goals and objectives (and those set forth by any licensing, registering, or certifying agency as applicable) are met. The Course Coordinator may also serve as the Primary Instructor. This

individual should have attended a workshop which reviews the format, philosophy and skills of the new curriculum.

Primary Instructor: The Primary Instructor is expected to be knowledgeable in all aspects of prehospital emergency care, in the techniques and methods of adult education, and managing resources and personnel. This individual should have attended and successfully completed a program in EMS instruction methodology and an update on this curriculum and have attained "Certified EMS Instructor" status with the North Carolina Office of Emergency Medical Services. The Primary Instructor should be present at most, if not all, class sessions to assure program continuity and to be able to identify that the students have the cognitive, affective and psychomotor skills necessary to function as an Emergency Medical Technician. This individual is responsible for the teaching of a specific lesson of the EMT course. This individual should have attended a workshop which reviews the format, philosophy and skills of the new curriculum.

Assistant Instructor: This individual assists the primary instructor of any lesson in the demonstration and practice designed to develop and evaluate student skill competencies.

Course Medical Director: The Course Medical Director of the EMT program should be a local physician with emergency medical experience who will act as the ultimate medical authority regarding course content, procedures, and protocols. The Course Medical Director, Course Coordinator and the Primary Instructor should work closely together in the preparation and presentation of the program. The Course Medical Director can assist in recruiting physicians to present materials in class, settling questions of medical protocol and acting as a liaison between the course and the medical community. During the program the Medical Director will be responsible for reviewing the quality of care rendered by the EMT in the clinical and field setting. This Course Medical Director or a designee is responsible to verify student competence in the cognitive, affective and psychomotor domains. The Course Medical Director should review all examinations. The Course Medical Director may also serve as the Primary Instructor.

Philosophy of the Adult Learner

Individuals participating in this educational program should be considered adult learners, even in those programs providing instruction to students younger than age 18. Adult learners are responsible for their own learning. There are several characteristics regarding the adult learner as an EMT student.

1. EMT students usually want to utilize knowledge and skills they have learned soon after they have learned them.
2. EMT students are interested in learning new concepts and principles; they enjoy situations that require problem-solving, not necessarily learning facts. It is less difficult for them to use the concepts and principles they have gained if they are able to participate actively in the learning process.
3. EMT students learn best if they are able to proceed at their own pace.
4. Motivation is increased when the subject content is relevant to the immediate interests and concerns of the EMT student.
5. Immediate feedback is essential to the EMT student, who needs to be kept informed of his progress continuously.

The intent of this revised curriculum is to alter the methods of instruction provided by the instructor. This curriculum has been designed and developed to reduce the amount of lecture time and move towards an environment of discussion and practical skills. This way both learners and instructors are active in the process of learning.

Principles of Adult Education

1. Attract and maintain the attention of the EMT student.

If instructors get off to a bad start, it is often because they fail to successfully gain and maintain the attention of the student. In these situations, students start enthusiastic and may leave with some level of disappointment.

A clear statement of the purpose of each lesson is of utmost importance in gaining the student's attention. This may be accomplished by using the information found in the motivational statement or the contextual statement of the lesson plan.

There are many methods that may be used to gain the student's attention, e.g., telling a relevant anecdote, posing a unique situation, or asking how they would solve a problem. Once you have gained the attention of the student, you must then maintain it throughout the entire lesson. After about 15-20 minutes of presentation, it is essential that the student be re-involved in the learning process. There are three methods often utilized to keep the students active in the process: Questioning, brainstorming, and demonstration.

Questions should be used to promote thought, to evaluate what has been learned, and to continuously move students toward their desired goal. Questioning students keeps them actively involved and keeps them thinking. It is also appropriate to ask rhetorical questions that are not meant to be answered by the student, but that encourage thinking. Questions should be open-ended and should not have "yes" or "no" answers. Questions should be a significant part of the lesson and should be used in both didactic and practical presentation.

Another method of keeping students actively involved in their learning is to use brainstorming. Brainstorming is a special and different type of questioning. This process generates a wide variety of creative ideas. There is no right or wrong answer, only creative thinking. Pose a question to the students and then allow them to provide as many answers as possible. After all the ideas have been presented, move the students toward the appropriate and important points.

The third technique is demonstration. By providing the students with actual demonstration, you have bridged the gap between theory and practice. When performing demonstration, it is beneficial to involve the students in the process. It is encouraged that demonstration be used during the didactic component of the presentation to assure breaking up long runs of lecture-type material.

2. Make the presentation clear and keep it organized.

By using the lesson plans, your instruction should be clear and organized. However, there are some additional tips that may assist you in your educational endeavors.

1. Tell the students what you are going to tell them.
2. Tell them.
3. Show them.
4. Let them try.

5. Observe.
6. Praise progress and redirect.
7. Tell them what you have told them.
8. Have them summarize what they have learned.

To help keep lessons clear, make sure the students have the objectives. The objectives should be presented to the students on the first day of class. It may be beneficial to present students with entire lesson plans and allow students to write additional information in the margins.

Continuing Education

It will be necessary to provide updates to the lead instructor and assistant instructors regarding the new curriculum material, and annual updates should be scheduled to inform instructors of current trends in prehospital emergency medicine.

Students

Job Description - Emergency Medical Technician

Career Requirements:

Responds to emergency calls to provide efficient and immediate care to the critically ill and injured, and transports the patient to a medical facility.

After receiving the call from the dispatcher, drives the ambulance to address or location given, using the most expeditious route, depending on traffic and weather conditions. Observes traffic ordinances and regulations concerning emergency vehicle operation.

Upon arrival at the scene of crash or illness, parks the ambulance in a safe location to avoid additional injury. Prior to initiating patient care, the EMT will also "size-up" the scene to determine that the scene is safe, the mechanism of injury or nature of illness, total number of patients and to request additional help if necessary. In the absence of law enforcement, creates a safe traffic environment, such as the placement of road flares, removal of debris, and re-direction of traffic for the protection of the injured and those assisting in the care of injured patients.

Determines the nature and extent of illness or injury and establishes priority for required emergency care. Based on assessment findings, renders emergency medical care to adult, infant and child, medical and trauma patients. Duties include but are not limited to, opening and maintaining an airway, ventilating patients, and cardiopulmonary resuscitation, including use of automated external defibrillators. Provide prehospital emergency medical care of simple and multiple system trauma such as controlling hemorrhage, treatment of shock (hypoperfusion), bandaging wounds, and immobilization of painful, swollen, deformed extremities. Medical patients include: Assisting in childbirth, management of respiratory, cardiac, diabetic, allergic, behavioral, and environmental emergencies, and suspected poisonings. Searches for medical identification emblem as a clue in providing emergency care. Additional care is provided based upon assessment of the patient and obtaining historical information. These interventions include assisting patients with prescribed medications, including sublingual nitroglycerin, epinephrine auto-injectors and hand-held aerosol inhalers. The EMT will also be responsible for administration of oxygen, oral glucose and activated charcoal.

Reassures patients and bystanders by working in a confident, efficient manner. Avoids mishandling and undue haste while working expeditiously to accomplish the task.

Where a patient must be extricated from entrapment, assesses the extent of injury and gives all possible emergency care and protection to the entrapped patient and uses the prescribed techniques and appliances for safely removing the patient. If needed, radios the dispatcher for additional help or special rescue and/or utility services. Provides simple rescue service if the ambulance has not been accompanied by a specialized unit. After extrication, provides additional care in triaging the injured in accordance with standard emergency procedures.

Complies with regulations on the handling of the deceased, notifies authorities, and arranges for protection of property and evidence at scene.

Lifts stretcher, placing in ambulance and seeing that the patient and stretcher are secured, continues emergency medical care.

From the knowledge of the condition of the patient and the extent of injuries and the relative locations and staffing of emergency hospital facilities, determines the most appropriate facility to which the patient will be transported, unless otherwise directed by medical direction. Reports directly to the emergency department or communications center the nature and extent of injuries, the number being transported, and the destination to assure prompt medical care on arrival. Identifies assessment findings which may require communications with medical direction for advice and for notification that special professional services and assistance be immediately available upon arrival at the medical facility.

Constantly assesses patient en route to emergency facility, administers additional care as indicated or directed by medical direction.

Assists in lifting and carrying the patient out of the ambulance and into the receiving facility.

Reports verbally and in writing their observation and emergency medical care of the patient at the emergency scene and in transit to the receiving facility staff for purposes of records and diagnostics. Upon request, provides assistance to the receiving facility staff.

After each call, restocks and replaces used linens, blankets and other supplies, cleans all equipment following appropriate disinfecting procedures, makes careful check of all equipment so that the ambulance is ready for the next run. Maintains ambulance in efficient operating condition. Ensures that the ambulance is clean and washed and kept in a neat orderly condition. In accordance with local, state or federal regulations, decontaminates the interior of the vehicle after transport of patient with contagious infection or hazardous materials exposure.

Determines that vehicle is in proper mechanical condition by checking items required by service management. Maintains familiarity with specialized equipment used by the service.

Attends continuing education and refresher educational programs as required by employers, medical direction, licensing or certifying agencies.

Meets qualifications within the functional job analysis.

Continuing Education and Its Importance in Lifelong Learning

This curriculum is designed to provide the student with the essentials to serve as an EMT. The time constraint of this program as recommended by the national emergency medical services community during the 1990 NHTSA *Consensus Workshop on Emergency Medical Services Training Programs* necessitates the need for enrichment and continuing education in order to bring the student to full competency. As an entry-level medical education program, we understand that a laborer who works with his hands and even a craftsman who works with his hands and head may be achievable within the time limit constraint, but an artist who works with his hands, head and heart cannot be achieved within these constraints. We strongly urge employers and service chiefs to integrate new graduates into specific orientation educational programs.

It is important to understand that this curriculum does not provide students with extensive knowledge in hazardous materials, blood-borne pathogens, emergency vehicle operations or rescue practices in unusual environments. These areas are not core elements of education and practice as identified in the *National EMS Education and Practice Blueprint*. Identified areas of competency not specifically designed within the North Carolina EMT Curriculum should be taught in conjunction with this program as a local option.

Environment

Classroom Environment

The intent of the revised curriculum is to allow for greater interaction between students and the instructors. The instruction should be very active and experiential. By using the procedural (how) section of the application area of the lesson plan, as well as the kinesthetic (do) component of the student activity section, the instructor should be better able to enhance the educational experience for the students.

Clinical/Field Rotations

In addition to the suggested hours of instruction, this course recommends that the student have patient interactions in a clinical setting. Ideally, areas that have access to an Emergency Medical Services system should send students into the field with experienced preceptors. However, in low volume systems or systems with legal considerations, the educational program may utilize emergency departments, clinics, or physician offices. The program director or medical director must establish appropriate relationships with various clinical sites to assure adequate contact with patients.

The student should interview and assess a minimum of five patients. The student should record the patient history and assessment on a prehospital care report just as he would if he were interacting with this patient in a field setting. The prehospital care report should then be reviewed by the Primary Instructor to assure competent documentation practices in accordance with the minimum data set. Regardless of the clinical educational system, the program must establish a feedback system to assure that students have acted safely and professionally during their experience. Students should be graded on this experience.

Students who have been reported to have difficulty in the clinical or field setting must receive remediation and redirection. Students should be required to repeat clinical or field setting experiences until they are deemed competent within the goals established by the Program Director.

In extreme cases, when students are not able to obtain experiences in a clinical or field setting, it may be necessary to utilize programmed patients. All variances must be approved by the state EMS office.

Maintaining Records

With regard to records, it is recommended that the Program Director/Course Coordinator maintain, as a minimum, information on the following:

- Student recruiting procedures and forms.
- Instructor recruiting and forms.
- Conducting an instructor orientation.
- Student attendance and performance at each lesson, including comments as appropriate regarding need for improvement in skills, knowledge, attitudes or personal habits.
- Results of evaluation and counseling sessions.
- Grades for each written examination and completed checklists for each skill evaluation.
- Number and qualifications of students completing the course.

- Number and qualifications of students who did not complete the course and the reasons for not completing the course if known.
 - Number and qualifications of the instructional team.
 - Instructor performance.
 - Description of the clinical and field rotations.
 - Adequacy and availability of facilities and resources.
 - Cost - total program costs, costs for each program element and costs per student.
 - Lists of enrichments and add-on courses taught in conjunction with the program.
 - Copies of American Heart Association or American Red Cross Basic Life Support Cards at the professional rescuer level.
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- Results of course entry examinations and qualifications as required by the certifying agency, state EMS office, course medical director or approved teaching institution.

Certification

The Office of Emergency Medical Services requires specific evaluation of cognitive and psychomotor performance prior to official certification as an Emergency Medical Technician. This is in addition to course completion and is required by state rules. The program director should contact the state Office of Emergency Medical Services for certification information.

Program Evaluation

On-going evaluation must be initiated to identify instructional or organizational deficiencies which affect student performance. The evaluation process should be two-fold in nature, objective and subjective. Two main methods of objective evaluation generally used are: 1) How well do students measure up to standardized examination? 2) How well do EMTs practice in accordance with established standards of care? Group and individual deficiencies may indicate problems in conducting the educational program. Subjective evaluation should be conducted at regular intervals by providing students with written questions on their opinions of the program's strengths and weaknesses. Students should be given the opportunity comment on the primary and assistant instructors, presentation style and effectiveness. Students should also be asked to comment on the program's compliance with specified course of instruction, the quality and quantity of psychomotor skills labs, and the validity of the examinations.

The purpose of this evaluation process is to strengthen future educational efforts. All information obtained as part of the subjective evaluation should be reviewed for legitimacy and possible

incorporation into the course. Due to the important nature of this educational program, every effort should be made to ensure the highest quality instruction.

Facilities

The physical environment for the provision of the EMT program is a critical component for the success of the overall program. The facility should have a large hall with sufficient space for seating all students. Abundant space should be made available for demonstration during the presentation of the course material. Additional rooms or adequate space should be available to serve as a practice area (one instructor for every six students). It is recommended that all the required equipment for the program be stored at the facility to assure availability for its use. The facility should be well lit for adequate viewing of various types of visual aids and demonstrations.

Heating and ventilation should assure student and instructor comfort and the seats should be comfortable with availability of desk tops or tables for taking notes. There should be an adequate number of tables for display of equipment, medical supplies, and educational aids. A chalkboard (flip chart, grease board) should be in the main hall. A projection screen and appropriate audio visual equipment should be located in the presentation facility. If possible, light switches should be conveniently located in the presentation area. Practice area should be carpeted and large enough to accommodate six students, one instructor, and the necessary equipment and medical supplies. Tables should be available for practice areas, with appropriate and sufficient equipment and medical supplies.

Course Cost

The cost for the provision of the EMT education varies widely across the nation. Educational considerations provided in this section may serve as a basis for estimating costs for conducting an EMT program. Additional costs will be incurred in the management and evaluation of the program. Specifically, the course director should consider costs associated with the following:

1. Salaries

- Medical director
- Course coordinator
- Primary instructor
- Assistant instructors

2. Facilities

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- Classroom and associated equipment (tables, chairs, audio-visual equipment)
- Field and clinical educational facilities
- Office space and associated equipment (desks, chairs, files)

3. Materials

- Emergency care equipment and supplies
- Educational aids (slides, film, video, flip chart, projection equipment, screens, handouts)
- Documents, e.g., Instructor's Course Guide, Instructor's Lesson Plans, text material, study guides, reference books

Student and instructor recruiting materials, registration forms, data collection forms, records and reports, and postage should be considered in the formal budget.

4. Travel and per diem, as appropriate

- Medical director
- Course coordinator
- Primary instructor
- Assistant instructors
- Students

5. Examination and certification costs

If it is necessary to provide instruction to the lead instructor or assistant instructors, that cost should also be taken into consideration in calculating the overall cost of the EMT program. In addition, it will be necessary to provide updates to the lead instructor and assistant instructors regarding the new curriculum material. Annual updates should be scheduled to inform instructors of current trends in prehospital emergency medicine.