

National EMS Education Standards Transition Template

A Comparison of EMS Knowledge and Skills to Assist the Transition and Implementation of the National EMS Education Standards for the

EMT-Basic to Emergency Medical Technician

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National Association of State EMS Officials

Falls Church, VA



Background:

In 1996, the National Highway Traffic Safety Administration (NHTSA) and the Health Resources and Services Administration (HRSA) published the national consensus document titled *EMS Agenda for the Future (Agenda)*. The intent of the *Agenda* is to create a common vision for the future of EMS and is designed for use by government and private organizations at the national, state and local levels to help guide EMS planning, decision making, and policy. In 2000, the *Agenda* was followed by the *EMS Education Agenda for the Future: A Systems Approach (Education Agenda)*. Since the release of the *Agenda*, the *National EMS Core Content (Core Content)*, *National EMS Scope of Practice Model (Scope of Practice Model)*, and the *National EMS Education Standards (Education Standards)* have been completed and published along with Instructional Guidelines geared to each practitioner level. States license EMS personnel and EMS agencies as a means of ensuring public health and safety. Because of this common and important function, the National Association of State EMS Officials (NASEMSO) has taken the lead in coordinating implementation of the *Education Agenda*. Because states may need to revise or develop processes to facilitate a smooth transition from the *U.S. Department of Transportation National Standard Curricula (NSC)* to the new *Education Standards*, the National Association of State EMS Officials (NASEMSO) collaborated with a panel of experts and several national stakeholder groups to establish a *Gap Analysis Template* in 2009. States were encouraged to consider several important factors to implement of the *Education Standards*:

- Individual states are encouraged to use the *National EMS Scope of Practice Model* as a foundation to establish state EMS practitioner levels.
- Individual states are encouraged to use the *Gap Analysis Template* to help define system processes that support the transition of EMS practitioners to the state-adopted scope of practice.
- The *Education Standards* promotes increased flexibility, encourages creativity within each EMS education program and encourages alternative delivery methods. The *Education Standards* do not represent a prescriptive sequence or content grouping for a class presentation. States and/or educational programs will need to determine the sequence for teaching the materials.
- Course outcome evaluations should be based on student competency, not the time to course completion, as this may vary. Time estimates may be provided to guide the *planning* for presentation of course materials.
- States and/or education programs should re-evaluate student qualifications, co-requisites, or pre-requisites for all EMS practitioner levels.
- States and/or programs should consider co-requisites or pre-requisites for transition courses to help establish the depth and breadth of new content.
- Individuals transitioning within a level (i.e. EMT-P to Paramedic) are responsible for the knowledge and skills that are implicit to all previous levels.

States retain the authority to credential individual practitioners in a way that best meets the needs of the state. Some states have already identified state-based learning objectives and educational priorities that exist both above and below the *Education Standards* making it difficult to establish a “national curriculum” for transition. Because a transition course per se would have a limited shelf life as the *Education Standards* are implemented, available resources have been focused on developing materials that will support implementation of the new practitioner levels and pre-packaged educational materials geared specifically *to the changes* are generally unavailable. To assist this effort, NASEMSO has utilized the *Gap Analysis Template* to help identify the generic “Gap Content” that can be used to enhance the knowledge and skills of existing practitioners that

desire certification/licensure at the level of the *Education Standards*. Proper learning objectives should be developed by end users and accompany an identification of methods (i.e. medical literature, publisher materials, in-service programs, and Learning Management Systems) that can be used to achieve educational goals. Page guides have been included to cross reference content with the *Education Standards* and more detail regarding content can be found within the Instructional Guidelines. Time frames (rough estimates) have been provided to assist in planning and are not intended to serve as a mandate. For the purposes of the Transition Templates:

- **“Essential Content”** is content or material that has been identified by an expert panel as having significantly changed (including expanded) from the NSC with sufficient clinical relevance that review and/or instruction during the transition process is **strongly recommended**.
- **“Supplemental Content”** is content or material that has been highlighted by the panel as changed (including expanded) from the NSC with sufficient clinical relevance that review and/or instruction **should be considered**.

Content areas that do not include time frames likely contain content changes that were felt to be insufficient to warrant updating. These content areas should, at a minimum, be reviewed by the state and added to transition learning requirements if deemed appropriate. Proper learning objectives should be developed by end users and accompany an identification of methods (i.e. medical literature, publisher materials, in-service programs, and Learning Management Systems) that can be used to achieve educational goals. Page guides have been included to cross reference content with the *Education Standards* and more detail regarding content can be found within the Instructional Guidelines. Declarative time frames (rough estimates) have been provided to assist planning efforts and are not intended to serve as a mandate. In addition, the *Education Standards* recognize the National Incident Management System (NIMS) and Hazardous Waste Operations and Emergency Response (HAZWOPER) standard, 29 CFR 1910.120 as pre- or co-requisite training requirements. Additional time may be needed to accommodate this content.

States will need to determine which content and/or skills must be tested and/or verified to complete state-based transition processes and communicate this information to stakeholders.

A list of EMS publisher materials that support the implementation of the Education Standards is maintained by NASEMSO on our web site at www.nasemso.org. *Education Standards* and *Instructional Guidelines* listed in this document serve as an example for convenience of the reader. Official documents published by NHTSA are available at www.ems.gov.

The NASEMSO Implementation Team is available to provide technical assistance to states with *Education Agenda* implementation efforts. State officials that desire additional information can contact NASEMSO via info@nasemso.org or call NASEMSO Program Advisor Kathy Robinson at (703) 538-1799 ext 1708.

Transition of EMT-Basic to Emergency Medical Technician

Section Title	EMS Education Standard	Gap Analysis of NSC to Education Standards	EMT Instructional Guidelines	Declarative E = Essential S = Supplemental	Essential Content
Preparatory	Applies fundamental knowledge of the EMS system, safety/well-being of the EMT, medical/legal and ethical issues to the provision of emergency care. (P. 11)			Total for Section E = 65 min. S = 15 min.	
• EMS Systems	EMR Material PLUS: Simple depth, foundational breadth • EMS systems • History of EMS • Roles/ responsibilities/professionalism of EMS personnel • Quality improvement • Patient safety (P. 11)	More detailed discussion on patient safety issues, decreasing medical errors, and required affective/behavioral characteristics	II. Roles, Responsibilities, and Professionalism of EMS Personnel A. Roles and Responsibilities B. Professionalism IV. Patient Safety A. Significant – One of the Most Urgent Health Care Challenges B. High-Risk Activities C. How Errors Happen D. Preventing Errors (P. 1)	15 min.	Essential
• Research	EMR Material PLUS: Simple depth, simple breadth • Evidence-based decision making (P. 11)	Limited information on evidence based decision making	I. Evidence-Based Decision-Making A. Traditional Medical Practice B. High-Quality Patient Care Should Focus on Procedures Proven Useful in Improving Patient Outcomes C. The Challenge for EMS Is the Relative Lack of Prehospital Research D. Evidence-Based Decision-Making Technique (P. 4)	5 min.	Essential
• Workforce Safety and Wellness	EMR Material PLUS: Fundamental depth, foundational breadth • Standard safety precautions • Personal protective equipment • Stress management o Dealing with death and dying • Prevention of work related injuries • Lifting and moving patients • Disease transmission • Wellness principles (P. 12)	Emphasizes the difference between body substance isolation and personal protective equipment Brief discussion on bariatric issues, neonatal isolettes and medical restraint	I. Standard Safety Precautions A. Hand washing B. Adherence to Standard Precautions/OSHA Regulation C. Safe Operation of EMS/Patient Care Equipment D. Environmental Control E. Occupational Health and Blood borne Pathogens II. Personal Protective Equipment V. (Selected Topics in) Lifting and Moving Patients (P. 4)	10 min.	Supplemental
• Documentation	EMR Material PLUS: Fundamental depth, foundational breadth • Principles of medical documentation and report writing (P. 13)	Content changes insufficient to warrant update	(P. 12)	0	

Section Title	EMS Education Standard	Gap Analysis of NSC to Education Standards	EMT Instructional Guidelines	Declarative E = Essential S = Supplemental	Essential Content
<ul style="list-style-type: none"> EMS System Communication 	EMR Material PLUS: Simple depth, simple breadth <ul style="list-style-type: none"> EMS communication system Communication with other health care professionals Team communication and dynamics (P. 13)	Fundamental information about transferring patient care to incoming EMTs	II. Communication With Other Health Care Professionals (P. 14)	5 min.	Supplemental
<ul style="list-style-type: none"> Therapeutic Communications 	EMR Material PLUS: Simple depth, simple breadth Principles of communicating with patients in a manner that achieves a positive relationship <ul style="list-style-type: none"> Adjusting communication strategies for age, stage of development, patients with special needs, and differing cultures Fundamental depth, foundational breadth <ul style="list-style-type: none"> Interviewing techniques Verbal defusing strategies Family presence issues (P. 13)	More detailed information about improving communication with the patient	I. Principles of Communicating With Patients in a Manner That Achieves a Positive Relationship (P. 17)	15 min.	Essential
<ul style="list-style-type: none"> Medical/Legal Ethics 	EMR Material PLUS: Fundamental depth, foundational breadth <ul style="list-style-type: none"> Consent/refusal of care Confidentiality Advanced directives Tort and criminal actions Evidence preservation Statutory responsibilities Mandatory reporting Ethical principles/moral Obligations (P. 13)	HIPAA (new content) <ul style="list-style-type: none"> should include a state-specific discussion on privileged communication Living Wills (added) Surrogate decision makers (added) Civil and criminal court cases (expanded)	II. Confidentiality A. Obligation to Protect Patient Information B. Health Information Portability and Accountability Act (HIPAA) C. Responsibility Arising From Physician – Patient Relationship D. Privileged Communications E. Breach of Confidentiality III. Advanced Directives A. Patient Self-Determination Act IV. Tort and Criminal Actions A. Criminality B. Civil Tort C. Mandatory Reporting (P. 21)	30 min.	Essential
Anatomy and Physiology	Applies fundamental knowledge of the anatomy and function of all human systems to the practice of EMS. (P. 14)	The respiratory information found in the 2000 Supplemental Airway and Ventilation Module should be added; more detailed discussion on the life support chain focusing on oxygenation, perfusion, and the cellular environment	II. Life Support Chain A. Fundamental Elements B. Issues Impacting Fundamental Elements (P. 27)	Total for Section E = 60 min. S = 0 min.	
Medical Terminology	Uses foundational anatomical and medical terms and abbreviations in written and oral communication with	Content changes insufficient to warrant update	(P. 29)	Total for Section	

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	colleagues and other health care professionals. (P. 14)			E = 0 min. S = 0 min.	
Physiology	Applies fundamental knowledge of the pathophysiology of respiration and perfusion to patient assessment and management. (P. 14)	Expanded content on respiratory dysfunction and shock	III. Respiratory Compromise A. Impaired Airway, Respiration, or Ventilation IV. Alteration in Regulation of Respiration Due to Medical or Traumatic Conditions V. Ventilation/Perfusion (V/Q) Ratio and Mismatch VI. Perfusion and Shock VII. Microcirculation VIII. Blood Pressure IX. Alteration of Cell Metabolism (P. 30)	Total for Section E = 0 min. S = 45 min.	
Life Span Development	Applies fundamental knowledge of life span development to patient assessment and management. (P. 14)	New content	(P. 34)	Total for Section E = 0 min. S = 5 min.	
Public Health	Uses simple knowledge of the principles of illness and injury prevention in emergency care. (P. 15)	New information at this level; related to <i>EMS Agenda for the Future</i> issues	I. Basic Principles of Public Health A. Role of Public Health B. Public Health Laws, Regulations, and Guidelines C. EMS Interface With Public Health (P. 40)	Total for Section E = 0 min. S = 5 min.	
Pharmacology	Applies fundamental knowledge of the medications that the EMT may assist/administer to a patient during an emergency. (P. 15)		(P. 42)	Total for Section E = 0 min. S = 15 min.	
<ul style="list-style-type: none"> Principles of Pharmacology 	Simple depth, simple breadth <ul style="list-style-type: none"> Medication safety Kinds of medications used during an emergency (P. 15)	N/A	(P. 42)	0	
<ul style="list-style-type: none"> Medication Administration 	EMR Material PLUS: Fundamental depth, foundational breadth Within the scope of practice of the EMT how to <ul style="list-style-type: none"> Assist/administer medications to a patient (P. 16)	Five rights of medication administration	1. The "rights" of drug administration <ol style="list-style-type: none"> Right patient – prescribed to patient Right medication – patient condition Right route – patient condition Right dose – prescribed to patient Right time – within expiration date (P.44)	5 min.	Supplemental
<ul style="list-style-type: none"> Emergency Medications 	EMR Material PLUS: Fundamental depth, simple breadth Within the scope of practice of the EMT <ul style="list-style-type: none"> Names 	Aspirin	I. Specific Medications (P. 46)	10 min.	Supplemental

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	<ul style="list-style-type: none"> • Actions • Indications • Contraindications • Complications • Routes of administration • Side effects • Interactions • Dosages for the medications administered (P. 16)				
Airway Management, Respiration, and Artificial Ventilation	Applies knowledge (fundamental depth, foundational breadth) of general anatomy and physiology to patient assessment and management in order to assure a patent airway, adequate mechanical ventilation, and respiration for patients of all ages. (P. 17)		(P. 47)	Total for Section E = 115 min. S = 0 min.	
<ul style="list-style-type: none"> • Anatomy and Physiology 	Fundamental depth, simple breadth <ul style="list-style-type: none"> • Anatomy of the respiratory system (P. 17)	N/A	N/A	0	
<ul style="list-style-type: none"> • Airway Management 	EMR Material PLUS: Fundamental depth, foundational breadth Within the scope of practice of the EMT <ul style="list-style-type: none"> • Airway anatomy • Airway assessment • Techniques of assuring a patent airway (P. 17)	Increased level of detail	I. Airway Anatomy II. Airway Assessment III. Techniques of Assuring a Patent Airway IV. Consider Age-Related Variations in Pediatric and Geriatric Patients (see Special Patient Populations Section) (P. 47)	30 min.	Essential
<ul style="list-style-type: none"> • Respiration 	(See also Anatomy and Physiology EMR Material PLUS: Fundamental depth, foundational breadth <ul style="list-style-type: none"> • Anatomy of the respiratory system • Physiology and pathophysiology of respiration o Pulmonary ventilation 	Increased level of detail	I. Anatomy of the Respiratory System A. Includes All Airway Anatomy Covered in the Airway Management Section B. Additional Respiratory System Anatomy C. Vascular Structures That Support Respiration	30 min.	Essential

Section Title	EMS Education Standard	Gap Analysis of NSC to Education Standards	EMT Instructional Guidelines	Declarative E = Essential S = Supplemental	Essential Content
	<ul style="list-style-type: none"> o Oxygenation o Respiration <ul style="list-style-type: none"> <input type="checkbox"/> External <input type="checkbox"/> Internal <input type="checkbox"/> Cellular • Assessment and management of adequate and inadequate respiration • Supplemental oxygen therapy (P. 18) 		D. Cells II. Physiology of Respiration A. Pulmonary Ventilation B. Oxygenation C. Respiration III. Pathophysiology of Respiration IV. Assessment of Adequate and Inadequate Ventilation V. Management of Adequate and Inadequate Respiration VI. Consider Age-Related Variations in Pediatric and Geriatric Patients (see Special Patient Populations) (P. 50)		
<ul style="list-style-type: none"> • Artificial Ventilation 	EMR Material PLUS: Fundamental depth, foundational breadth Assessment and management of adequate and inadequate ventilation <ul style="list-style-type: none"> • Artificial ventilation • Minute ventilation • Alveolar ventilation • Effect of artificial ventilation on cardiac output (P. 18) 	Increased level of detail	I. The Management of Inadequate Ventilation II. The Differences Between Normal and Positive Pressure Ventilation III. Consider Age-Related Variations in Pediatric and Geriatric Patients (see Special Patient Considerations) (P. 57)	15 min.	Essential
Patient Assessment	Applies scene information and patient assessment findings (scene size up, primary and secondary assessment, patient history, and reassessment) to guide emergency management. (P. 19)		(P. 60)	Total for Section E = 90 min. S = 0 min.	
<ul style="list-style-type: none"> • Scene Size Up 	EMR Material PLUS: Fundamental depth, foundational breadth <ul style="list-style-type: none"> • Scene management o Multiple patient situations (P. 19) 	Re-emphasis on scene safety	I. Scene Safety A. Common Scene Hazards B. Evaluation of the Scene (P. 60)	5 min.	Essential
<ul style="list-style-type: none"> • Primary Assessment 	EMR Material PLUS: Fundamental depth, simple breadth <ul style="list-style-type: none"> • Primary assessment for all patient situations o Initial general impression o Level of consciousness o ABCs o Identifying life threats o Assessment of vital 	New terminology	I. Primary Survey/Primary Assessment A. Initial General Impression B. Level of Consciousness C. Airway Status D. Breathing Status E. Circulatory Status F. Identifying Life Threats G. Assessment of Vital Functions	20 min.	Essential

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	functions • Integration of treatment/procedures needed to preserve life (P. 20)		(P. 63)		
• History-Taking	EMR Material PLUS: Fundamental depth, foundational breadth • Investigation of the chief complaint • Mechanism of injury/nature of illness • Past medical history • Associated signs and symptoms • Pertinent negatives (P. 20)	New terminology Geriatric content added	I. Investigation of the Chief Complaint II. Components of a Patient History III. Techniques of History Taking IV. Standardized Approach to History Taking V. Taking History on Sensitive Topics VI. Age-Related Variations for Pediatric and Geriatric Assessment and Management A. Pediatric (review optional) B. Geriatric (P. 66)	30 min.	Essential
• Secondary Assessment	EMR Material PLUS: Fundamental depth, foundational breadth Techniques of physical examination • Respiratory system o Presence of breath sounds • Cardiovascular system • Neurological system • Musculoskeletal system • All anatomical regions (P. 20)	New terminology Increased level of detail	I. Techniques of Physical Examination (P. 71)	15 min.	Essential
• Monitoring Devices	Simple depth, simple breadth Within the scope of practice of the EMT • Obtaining and using information from patient monitoring devices including (but not limited to) o Pulse oximetry o Non-invasive blood pressure (P. 21)	Pulse Oximetry	I. Pulse Oximetry A. Purpose B. Indications C. Procedure D. Limitations (P. 76)	15 min.	Essential
• Reassessment	EMR Material PLUS: Fundamental depth, foundational breadth • how and when to perform a reassessment for all patient situations (P. 21)	Reassessment of vital signs added	I. How and When to Reassess II. Age-Related Considerations for Pediatric and Geriatric Assessment (P.78)	5 min.	Essential
Medicine	Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely ill patient. (P. 22)		(P. 80)	Total for Section E = 205 min. S = 20 min.	
• Medical Overview	EMR Material PLUS:	Re-use of new assessment terminology	I. Assessment Factors	5 min.	Supplemental

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	Simple depth, foundational breadth Pathophysiology, assessment, and management of a medical complaints to include <ul style="list-style-type: none"> • Transport mode • Destination decisions (P. 22)		II. Major Components of the Patient Assessment (P. 80)		
<ul style="list-style-type: none"> • Neurology 	EMR Material PLUS: Fundamental depth, foundational breadth Anatomy, physiology, pathophysiology, assessment and management of <ul style="list-style-type: none"> • Stroke/ transient ischemic attack • Seizure • Status epilepticus • Headache (P. 23)	Stroke discussion (all new)	I. Stroke/TIA A. Causes B. Review of Anatomy and Function of the Brain and Cerebral Blood Vessels C. Assessment Findings and Symptoms D. Stroke Alert Criteria E. Management of Patient With Stroke Assessment Findings or Symptoms F. Scene Safety and Standard Precautions G. Transient Ischemic Attack (TIA) (P. 84)	15 min.	Essential
<ul style="list-style-type: none"> • Abdominal and Gastrointestinal Disorders 	EMR Material PLUS: Fundamental depth, foundational breadth Anatomy, physiology, pathophysiology, assessment, and management of <ul style="list-style-type: none"> • Acute and chronic gastrointestinal hemorrhage Simple depth, simple breadth <ul style="list-style-type: none"> • Peritonitis • Ulcerative diseases (P. 24)	Anatomy; assessment; management; GI bleeding, peritonitis, ulcerative disease, age-related variations	I. Define Acute Abdomen II. Anatomy of the Organs of the Abdominopelvic Cavity V. Specific Acute Abdominal Conditions VI. Consider Age-Related Variations for Pediatric and Geriatric Assessment and Management (P. 87)	30 min.	Essential
<ul style="list-style-type: none"> • Immunology 	EMR Material PLUS: Fundamental depth, foundational breadth Anatomy, physiology, pathophysiology, assessment, and management of hypersensitivity disorders and/or emergencies <ul style="list-style-type: none"> • Anaphylactic reactions (P. 25)	The term anaphylaxis did not appear in the 1994 EMT-B National Standard Curriculum Some geriatric information added	I. Introduction A. Definition of Terms 1. Allergic reaction 2. Anaphylaxis B. Risk Factors and Common Allergens II. Basic Immune System's Response to Allergens III. Fundamental Pathophysiology IV. Assessment Findings for Allergic Reaction V. Assessment Findings for Anaphylaxis VI. Management VII. Epinephrine as a Treatment for Allergic Reaction VII. Age Related IX. Communication and Documentation X. Transport Decisions (P. 89)	10 min.	Supplemental
<ul style="list-style-type: none"> • Infectious Diseases 	EMR Material PLUS:	Updated infectious disease information, for example	II. Body Substance Isolation, Personal Protective	10 min.	Essential

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	Simple depth, simple breadth Assessment and management of • A patient who may have an infectious disease • How to decontaminate the ambulance and equipment after treating a patient (P. 26)	methicillin-resistant Staphylococcus aureus (MRSA) and Acquired Immune Deficiency Syndrome (AIDS) update; should include a discussion on cleaning and sterilizing equipment and decontaminating the ambulance	Equipment, and Cleaning and Disposing of Equipment and Supplies A. Principles of Body Substance Isolation B. Hand Washing Guidelines C. Recommendations for PPE D. Recommendations for Cleaning or Sterilization of Equipment E. Recommendations for Disposing of Contaminated Linens and Supplies Including Sharps F. Recommendations for Decontaminating the Ambulance (P. 91)		
• Endocrine Disorders	EMR Material PLUS: Fundamental depth, foundational breadth Anatomy, physiology, pathophysiology, assessment and management of • Acute diabetic emergencies (P. 27)	Increased level of detail on diabetes	I. Introduction II. Diabetes (P. 93)	10 min.	Essential
• Psychiatric	EMR Material PLUS: Simple depth, simple breadth • Basic principles of the mental health system Fundamental depth, foundational breadth Assessment and management of • Acute psychosis • Suicidal/risk • Agitated delirium (P. 28)	New material; includes new material on excited delirium Revised restraint techniques	V. Psychiatric Emergencies VI. Medical-Legal Considerations A. Types of Restraints (P. 97)	15 min.	Essential
• Cardiovascular	EMR Material PLUS: Anatomy, physiology, pathophysiology, assessment, and management of Fundamental depth, foundational breadth • Acute coronary syndrome o Angina pectoris o Myocardial infarction • Aortic aneurysm/dissection • Thromboembolism Simple depth, simple breadth • Heart failure • Hypertensive emergencies (P. 29)	Increased emphasis on anatomy, physiology and pathophysiology; increased emphasis on specific cardiovascular emergencies, addition of aspirin information for acute coronary syndrome	I. Anatomy of the Cardiovascular System II. Physiology III. Pathophysiology IV. Assessment V. Management (refer to the current American Heart Association Guidelines) VI. Specific Cardiovascular Emergencies (refer to current American Heart Association Guidelines) VII. Pharmacological Agents VIII. Consider Age-Related Variations for Pediatric and Geriatric Patients for Assessment and Management of Cardiac Compromise (P. 99)	60 min.	Essential
• Toxicology	EMR Material PLUS: Fundamental depth, foundational breadth	Poison control information included; addition of drugs of abuse	I. Introduction A. Define Toxicology, Poisoning, Overdose	5 min.	Supplemental

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	Anatomy, physiology, pathophysiology, assessment, and management of <ul style="list-style-type: none"> Inhaled poisons Ingested poisons Injected poisons Absorbed poisons Alcohol intoxication and Withdrawal (P. 30) 		B. National Poison Control Center C. Routes of Absorption VI. Drugs of Abuse A. Opiates/Narcotics B. Alcohol C. Common Causative Agents, Assessment Findings and Symptoms, Management (P. 104)		
• Respiratory	EMR Material PLUS: Anatomy, physiology, pathophysiology, assessment, and management of Fundamental depth, foundational breadth <ul style="list-style-type: none"> Epiglottitis Spontaneous pneumothorax Pulmonary edema Asthma Chronic obstructive pulmonary disease Environmental/industrial exposure Toxic gas Simple depth, simple breadth <ul style="list-style-type: none"> Pertussis Cystic fibrosis Pulmonary embolism Pneumonia Viral respiratory infections (P. 31) 	Increased level of detail on respiratory distress	I. Anatomy of the Respiratory System A. Upper Airway B. Lower Airway C. Lungs and Accessory Structures II. Normal Respiratory Effort A. Assessment Findings and Symptoms and Management for Respiratory Conditions III. Specific Respiratory Conditions (P. 107)	45 min.	Essential
• Hematology	Simple depth, simple breadth Anatomy, physiology, pathophysiology, assessment, and management of <ul style="list-style-type: none"> Sickle cell crisis Clotting disorders (P. 32) 	Brief discussion of sickle cell disease	III. Sickle Cell Crisis A. General Assessment B. General Management (P. 109)	5 min.	Essential
• Genitourinary/Renal	EMR Material PLUS: Simple depth, simple breadth Anatomy, physiology, pathophysiology, assessment, and management of <ul style="list-style-type: none"> Complications related to <ul style="list-style-type: none"> Renal dialysis Urinary catheter management (not insertion) Kidney stones (P. 33) 	Increased level of detail	III. Dialysis A. Hemodialysis B. Peritoneal Dialysis C. Special Considerations for Hemodialysis Patients D. Complications/Adverse Effects of Dialysis (P. 110)	15 min.	Essential

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<ul style="list-style-type: none"> Gynecology 	EMR Material Plus: Anatomy, physiology, assessment findings, and management of Fundamental depth, foundational breadth <ul style="list-style-type: none"> Vaginal bleeding Sexual assault (to include appropriate emotional support) Simple depth, simple breadth <ul style="list-style-type: none"> Infections (P. 34)	Brief discussion of sexually transmitted diseases and pelvic inflammatory disease	IV. Specific Gynecological Emergencies—Definition, Causes, Risk Factors, Assessment Findings, Management (P. 112)	0	
<ul style="list-style-type: none"> Non-traumatic Musculoskeletal Disorders 	Fundamental depth, foundational breadth Anatomy, physiology, pathophysiology, assessment and management of <ul style="list-style-type: none"> Non-traumatic fractures (P. 34)	New information at this level	I. Anatomy and physiology review A. Bones B. Muscles II. Pathophysiology A. Non-Traumatic Fractures (i.e. cancer or osteoporosis) (P. 113)	0	
<ul style="list-style-type: none"> Diseases of the Eyes, Ears, Nose, and Throat 	Simple depth, simple breadth Recognition and management of <ul style="list-style-type: none"> Nose bleed (P. 35)	N/A	(P. 114)	0	
Shock and Resuscitation	Applies fundamental knowledge of the causes, pathophysiology, and management of shock, respiratory failure or arrest, cardiac failure or arrest, and post resuscitation management. (P. 35)	Shock content was moved from trauma to emphasize the fact that it occurs in contexts other than trauma; the cardiac arrest information was moved from cardiology for the same reason; brief discussion on devices to assist circulation, although subject to local protocol; shock should be taught in a more comprehensive context rather than simply as a consequence of bleeding	(P. 115)	Total for Section E = 30 min. S = 0 min.	
Trauma	Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely injured patient. (P. 35)			Total for Section E =160 min. S = 30 min.	
<ul style="list-style-type: none"> Trauma Overview 	Fundamental depth, foundational breadth Pathophysiology, assessment, and management of the trauma patient <ul style="list-style-type: none"> Trauma scoring Rapid transport and destination issues Transport mode (P. 35)	Field Triage Decision Scheme added	VIII. Shock (P. 117) I. Identification and Categorization of Trauma Patients A. Entry-level students need to be familiar with: 1. National Trauma Triage Protocol (P. 122)	30 min.	Supplemental
<ul style="list-style-type: none"> Bleeding 	EMR Material Plus: Fundamental depth, foundational breadth	Content changes insufficient to warrant update	(P. 125)	0	

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	Pathophysiology, assessment, and management of • Bleeding (P. 35)				
• Chest Trauma	EMR Material Plus: Fundamental depth, simple breadth Pathophysiology, assessment and management • Blunt versus penetrating mechanisms • Hemothorax • Pneumothorax o Open o Simple o Tension • Cardiac tamponade • Rib fractures • Flail chest • Commotio cordis (P. 37)	Increased level of detail	IV. Physiology A. Role of the Chest in Systemic Oxygenation B. Ventilation V. Pathophysiology of Chest Trauma A. Impaired Cardiac Output B. Impaired Ventilation C. Impaired Gas Exchange (P. 128)	30 min.	Essential
• Abdominal and Genitourinary Trauma	EMR Material Plus: Fundamental depth, simple breadth Pathophysiology, assessment and management of • Solid and hollow organ injuries • Blunt versus penetrating mechanisms • Evisceration • Injuries to the external genitalia • Vaginal bleeding due to trauma • Sexual assault (P. 38)	Increased level of detail	III. Physiology A. Solid Organs B. Hollow Organs C. Vascular Structures IV. Specific Injuries A. Closed Abdominal Trauma B. Penetrating/Open Abdominal Trauma C. Considerations in Abdominal Trauma (P. 131)	15 min.	Essential
• Orthopedic Trauma	EMR Material Plus: Pathophysiology, assessment, and management of Fundamental depth, foundational breadth • Upper and lower extremity orthopedic trauma • Open fractures • Closed fractures • Dislocations • Sprains/strains • Pelvic fractures • Amputations/replantation (P. 39)	Content changes insufficient to warrant update	(P. 135)	0	
• Soft Tissue Trauma	EMR Material Plus: Fundamental depth, foundational breadth Pathophysiology, assessment, and management • Wounds	Content changes insufficient to warrant update	(P. 142)	0	

Section Title	EMS Education Standard	Gap Analysis of NSC to Education Standards	EMT Instructional Guidelines	Declarative E = Essential S = Supplemental	Essential Content
	<ul style="list-style-type: none"> o Avulsions o Bite wounds o Lacerations o Puncture wounds o Incisions • Burns o Electrical o Chemical o Thermal o Radiation Simple depth, simple breadth <ul style="list-style-type: none"> • Crush syndrome (P. 40)				
<ul style="list-style-type: none"> • Head, Facial, Neck and Spine Trauma 	EMR Material Plus: Fundamental depth, foundational breadth Pathophysiology, assessment, and management of <ul style="list-style-type: none"> • Penetrating neck trauma • Laryngeotracheal injuries • Spine trauma Simple depth, simple breadth <ul style="list-style-type: none"> • Facial fractures • Skull fractures • Foreign bodies in the eyes • Dental trauma (P. 41)	Increase level of detail Emphasize the potential harm of hyperventilation	II. Review of Anatomy and Physiology of the Head, Face, and Neck (P. 147)	10 min.	Essential
<ul style="list-style-type: none"> • Nervous System Trauma 	Fundamental depth, foundational breadth Pathophysiology, assessment, and management of <ul style="list-style-type: none"> • Traumatic brain injury • Spinal cord injury (P. 42)	Increase emphasis on neurological assessment	III. General Assessment Considerations for Brain Trauma Patients A. Airway and Ventilation B. Mechanism of Injury C. Spinal Immobilization D. Respiratory Status -- brain injuries can cause irregular breathing patterns due to injuries affecting the brain stem E. Complete a Neurological Exam F. Management Considerations With Brain Trauma G. Transport Considerations H. Refer to Brain Injury Foundation Guidelines (P. 155)	45 min.	Essential
<ul style="list-style-type: none"> • Special Considerations in Trauma 	EMR Material Plus: Fundamental depth, foundational breadth Pathophysiology, assessment, and management of trauma in the <ul style="list-style-type: none"> • Pregnant patient 	Pregnant patients added Pediatric patients added Elderly patients added Cognitive impairment added	I. Trauma in Pregnancy A. Special Unique Considerations for Pregnant Patient Involved in Trauma B. Special Anatomy, Physiology, and Pathophysiology Considerations	45 min.	Essential

Section Title	EMS Education Standard	Gap Analysis of NSC to Education Standards	EMT Instructional Guidelines	Declarative E = Essential S = Supplemental	Essential Content
	<ul style="list-style-type: none"> Pediatric patient Geriatric patient Cognitively impaired patient (P. 42) 		<p>C. Unique Types of Injuries and Conditions D. Unique Assessment Considerations E. Unique Management Considerations</p> <p>II. Trauma in the Pediatric Patient A. Special Unique Considerations for Pediatric Patient Involved in Trauma B. Unique Anatomy, Physiology, and Pathophysiology Considerations C. Unique Assessment Considerations D. Unique Management Considerations</p> <p>III. Trauma in the Elderly Patient A. Special Considerations for Geriatric Patients Involved in Trauma B. Unique Anatomy, Physiology, and Pathophysiology Considerations C. Unique Assessment Considerations D. Unique Management Considerations</p> <p>IV. Trauma in the Cognitively Impaired Patient A. Unique Considerations for Injured Cognitively Impaired Patients B. Unique Anatomy, Physiology, and Pathophysiology Considerations C. Unique Assessment Consideration D. Unique Management Consideration (P. 160)</p>		
<ul style="list-style-type: none"> Environmental Trauma 	<p>EMR Material Plus: Fundamental depth, foundational breadth Pathophysiology, assessment, and management of</p> <ul style="list-style-type: none"> Near drowning Temperature-related illness Bites and envenomations Dysbarism <ul style="list-style-type: none"> High-altitude Diving injuries Electrical injury Radiation exposure (P. 43) 	Increase level of detail on submersion, bites, envenomation, diving injuries, and radiation exposure	<p>I. Submersion Incidents III. Bites and Envenomations IV. Diving Emergencies (Dysbarism) VI. Radiation (P. 164)</p>	0	
<ul style="list-style-type: none"> Multi-System Trauma 	<p>EMR Material Plus: Fundamental depth, foundational breadth</p>	<p>Increased level of detail added</p> <ul style="list-style-type: none"> includes discussion of kinematics and blast 	<p>I. Kinematics of Trauma III. Specific Injuries Related to Multi-System Trauma A. Blast Injuries</p>	0	

Section Title	EMS Education Standard	Gap Analysis of NSC to Education Standards	EMT Instructional Guidelines	Declarative E = Essential S = Supplemental	Essential Content
	Pathophysiology, assessment, and management of <ul style="list-style-type: none"> Multi-system trauma Blast injuries (P. 43)	injury	(P. 170)		
Special Patient Populations	Applies a fundamental knowledge of growth, development, and aging and assessment findings to provide basic emergency care and transportation for a patient with special needs. (P. 44)		(P. 174)	Total for Section E = 10 min. S = 50 min.	
<ul style="list-style-type: none"> Obstetrics 	EMR Material Plus: Fundamental depth, foundational breadth <ul style="list-style-type: none"> Anatomy and physiology of normal pregnancy Pathophysiology of complications of pregnancy Assessment of the pregnant patient Management of <ul style="list-style-type: none"> Normal delivery Abnormal delivery <ul style="list-style-type: none"> Nuchal cord Prolapsed cord Breech delivery Third trimester bleeding <ul style="list-style-type: none"> Placenta previa Abruptio placenta Spontaneous abortion/miscarriage Ectopic pregnancy Preeclampsia/Eclampsia (P. 44)	More detailed discussion on complications of pregnancy; uses the terms preeclampsia, eclampsia and premature rupture of membranes (which do not require a lengthy discussion)	III. General System Physiology, Assessment, and Management IV. Complications of Pregnancy (P. 174)	10 min.	Essential
<ul style="list-style-type: none"> Neonatal Care 	EMR Material Plus: Fundamental depth, foundational breadth Assessment and management <ul style="list-style-type: none"> Newborn Neonatal resuscitation (P. 45)	Content changes insufficient to warrant update	(P. 177)	0	
<ul style="list-style-type: none"> Pediatrics 	EMR Material Plus: Fundamental depth, foundational breadth Age-related assessment findings, age-related, and developmental stage related assessment and treatment modifications for pediatricspecific major diseases and/or emergencies <ul style="list-style-type: none"> Upper airway obstruction Lower airway reactive disease 	Increased level of detail	Extensive content (PP. 178-188)	0	

Section Title	EMS Education Standard	Gap Analysis of NSC to Education Standards	EMT Instructional Guidelines	Declarative E = Essential S = Supplemental	Essential Content
	<ul style="list-style-type: none"> Respiratory distress/failure/arrest Shock Seizures Sudden Infant Death Syndrome Gastrointestinal disease (P. 46)				
<ul style="list-style-type: none"> Geriatrics 	EMR Material Plus: Fundamental depth, foundational breadth Changes associated with aging, psychosocial aspects of aging and age-related assessment and treatment modifications for the major or common geriatric diseases and/or emergencies <ul style="list-style-type: none"> Cardiovascular diseases Respiratory diseases Neurological diseases Endocrine diseases Alzheimer's Dementia (P. 47)	All new content	Extensive content (PP. 189-196)	30 min	Supplemental
<ul style="list-style-type: none"> Patients With Special Challenges 	EMR Material Plus: Simple depth, simple breadth Healthcare implications of <ul style="list-style-type: none"> Abuse Neglect Homelessness Poverty Bariatrics Technology dependent Hospice/ terminally ill Tracheostomy care/dysfunction Homecare Sensory deficit/loss Developmental disability (P. 48)	Elder abuse, homelessness, poverty, bariatric, more technology dependent, hospice, sensory deficit, homecare, and developmental disabilities added	I. Abuse and Neglect II. Homelessness/Poverty III. Bariatric Patients IV. Technology Assisted/Dependent V. Hospice Care and Terminally Ill VII. Sensory Deficits VIII. Homecare IX. Patient With Developmental Disability (P. 197)	20 min	Supplemental

Section Title	EMS Education Standard	Gap Analysis of NSC to Education Standards	EMT Instructional Guidelines	Declarative E = Essential S = Supplemental	Essential Content
EMS Operations	Knowledge of operational roles and responsibilities to ensure safe patient, public and personnel safety(P. 48)		(P. 200)	Total for Section E = 40 min.* S = 10 min.	*Does not include time for NIMS or HAZWOPER requirements
<ul style="list-style-type: none"> Principles of Safely Operating a Ground Ambulance 	EMR Material Plus: Simple depth, foundational breadth <ul style="list-style-type: none"> Risks and responsibilities of transport (P. 48) 	Increased depth of discussion on the risks of emergency response and leaving the scene	I. Risks and Responsibilities of Emergency Response A. Safety Issues During Transport (P. 200)	10 min.	Essential
<ul style="list-style-type: none"> Incident Management 	EMR Material Plus: Fundamental depth, foundational breadth <ul style="list-style-type: none"> Establish and work within the incident management system (P. 49) 	ICS and federal requirements added	I. Establish and Work Within the Incident Management System A. Entry-Level Students Need to Be Certified in <ol style="list-style-type: none"> ICS-100: Introduction to ICS, or equivalent FEMA IS-700: NIMS, An Introduction (P. 202) 	This Can Be Done as a Co requisite or Prerequisite or as Part of the Entry-Level Course	Essential
<ul style="list-style-type: none"> Multiple Casualty Incidents 	EMR Material Plus: Simple depth, foundational breadth <ul style="list-style-type: none"> Triage Performing Re-Triage Destination Decisions Post Traumatic and Cumulative Stress (P. 49) 	References Centers for Disease Control (CDC) Field Triage Decision Scheme: The National Trauma Triage Protocol	II. Triage (P. 203)	10 min.	Essential
<ul style="list-style-type: none"> Air Medical 	Simple depth, simple breadth <ul style="list-style-type: none"> Safe air medical operations Criteria for utilizing air medical response (P. 49) 	New material added Patient transfer issues Interaction with AM personnel, scene safety, LZ selection and prep	I. Safe Air Medical Operations A. Types B. Advantages C. Disadvantages D. Patient Transfer E. Landing Zone Selection and Preparation F. Approaching the Aircraft G. Communication Issues II. Criteria for Utilizing Air Medical Response A. Indications for Patient Transport B. Activation (P. 205)	10 min.	Supplemental
<ul style="list-style-type: none"> Vehicle Extrication 	Simple depth, simple breadth <ul style="list-style-type: none"> Safe vehicle extrication 	Situational safety added	I. Safe Vehicle Extrication D. Situational Safety	0	

Section Title	EMS Education Standard	Gap Analysis of NSC to Education Standards	EMT Instructional Guidelines	Declarative E = Essential S = Supplemental	Essential Content
	• Use of simple hand tools (P. 49)		(P. 207)		
• Hazardous Materials Awareness	Simple depth, simple breadth • Risks and responsibilities of operating in a cold zone at a hazardous material or other special incident (P. 49)	HAZWOPER standard added	I. Risks and Responsibilities of Operating in a Cold Zone at a Hazardous Material or Other Special Incident A. Entry-Level Students Need to Be Certified in: 1. Hazardous Waste Operations and Emergency Response (HAZWOPER) standard, 29 CFR 1910.120 (q)(6)(i) -First Responder Awareness Level (P. 210)	This Can Be Done as a Co requisite or Prerequisite or as Part of the Entry-Level Course	Essential
• Mass Casualty Incidents Due to Terrorism and Disaster	Simple depth, simple breadth • Risks and responsibilities of operating on the scene of a natural or man-made disaster (P. 50)	All new content	I. Risks and Responsibilities of Operating on the Scene of a Natural or Man-Made Disaster A. Role of EMS B. Safety (P. 211)	20 min	Essential

For a current EMT-Basic (based on 1994 EMT-B National Standard Curriculum) transitioning to 2009 Emergency Medical Technician (EMT), the following skills are **no longer taught**:

- Insertion of nasogastric and orogastric tubes
- Activated charcoal

The following restraint technique has been determined to be harmful and is no longer permitted: forceful restraint in a prone position, with wrists & ankles tightly tied together ("hobbled") behind the back.

Skill Considerations: Use of oxygen humidifiers, use of partial rebreather, simple face, and Venturi masks, obtaining a pulse oximetry value, use of automated transport ventilators, use of mechanical CPR devices (requires additional specialty training and device approval), assisting a patient with his/her prescribed medications, administration of aspirin by mouth, use of an auto-injector (self or peer).

Summary of proposed time for planning purposes: Essential content = 10.25 hrs. Supplemental = 3.25 hrs.
These projections do not include a time allotment for NIMS and HAZWOPER requirements or performance of clinical skills.