

OSDH – EMS ADVANCED EMERGENCY MEDICAL TECHNICIAN

**Recommended Training Hours
for
National Education Standard**

**OSDH
2011**

INTRODUCTION:

Oklahoma is committed to the implementation of the EMS Education Agenda for the Future:

HISTORY:

The *EMS Education for the Future: A Systems Approach* establishes a system of EMS education that more closely parallels that of other health care professions. As part of this systems approach, the *National EMS Scope of Practice Model* calls for the reconfiguration of EMS provider levels in the United States. Oklahoma has opted to follow the *Scope of Practice Model*, as published by the National Highway Traffic Safety Administration's (NHTSA) Office of Emergency Medical Services. Therefore we have adopted the *National EMS Education Standards* which have been published by NHTSA in conjunction with the above. You may download the *Standard* and accompanying *Instructor Guidelines* at <ems.gov>.

Name Change: [Oklahoma needs to add this level in our Statute and Rules]

Current Level	New Level
None	Advanced Emergency Medical Technician

CURRENT CHANGES TO National Registry TESTING

Levels	When do updated exams start?	Last date course based on NSC could finish	Last NREMT exam given
AEMT	June 1, 2011	N/A	N/A

The AEMT training modalities are totally new. You can 'download' the National Education Standard and the accompanying "Advanced Emergency Medical Technician Instructional Guidelines" [IGs] from the National Highway Traffic Safety Administration web site

<http://ems.gov/education/nationalstandardandncs.html>

It will be a requirement that you have a copy of the "Instructor Guidelines" for this level of training! You as an Instructor will use this for entry level classes [AEMT] and the "Transition Courses" when they are available later.

If you have any questions, please feel free to contact us at (405)271-4027 or by email at <roberti@health.ok.gov>

ADVANCED EMERGENCY MEDICAL TECHNICIAN STANDARDS:

ADVANCED EMERGENCY MEDICAL TECHNICIAN (AEMT)

The primary focus of the Advanced Emergency Medical Technician is to provide basic and limited advanced emergency medical care and transportation for critical and emergent patients who access the emergency medical system. This individual possesses the basic knowledge and skills necessary to provide patient care and transportation. Advanced Emergency Medical Technicians function as part of a comprehensive EMS response, under medical oversight. Advanced Emergency Medical Technicians perform interventions with the basic and advanced equipment typically found on an ambulance. The Advanced Emergency Medical Technician is a link from the scene to the emergency health care system.

Preparatory

Applies fundamental knowledge of the EMS system, safety/well-being of the AEMT, medical/legal and ethical issues to the provision of emergency care.

EMS Systems:

The AEMT IG's in this section include all the topics and material at the EMT level PLUS the following material:

- Quality improvement
- Patient Safety
- Education
- Authorization to Practice
- Integration with other Professionals and Continuity of Care
- Maintenance of Certification and Licensure

Research

The AEMT IG's in this section include all the topics and material at the EMT level.

Workforce Safety and Wellness

The AEMT IG's in this section include all the topics and material at the EMT level

Documentation

The AEMT IG's in this section include all the topics and material at the EMT level PLUS the following material:

- Principles of Medical Documentation and Report Writing

EMS System Communication

The AEMT IG's in this section include all the topics and material at the EMT level PLUS the following material:

- EMS Communication System
- Communicating with other Health Care Professionals
- Team Communication and Dynamics

Therapeutic Communication

The AEMT IG's in this section include all the topics and material at the EMT level PLUS the following material:

- Principles of Communicating with Patients in a Manner that Achieves a Positive Relationship

Medical/Legal and Ethics

The AEMT IG's in this section include all the topics and material at the EMT level

Anatomy and Physiology

Integrates complex knowledge of the anatomy and physiology of the airway, respiratory and circulatory systems to the practice of EMS

Anatomy and Physiology

The AEMT IG's in this section include all the topics and material at the EMT level PLUS the following material:

- Anatomy and Body Functions
- Life Support Chain
- Age-Related Variations for Pediatrics and Geriatrics

Medical Terminology

Uses foundational anatomical and medical terms and abbreviation in written and oral communications with colleagues and other health care professional..

Medical Terminology

The AEMT IG's in this section include all the topics and material at the EMT level:

Pathophysiology

Applies comprehensive knowledge of the pathophysiology of respiration and perfusion to patient assessment and management.

Pathophysiology

The AEMT IG's in this section include all the topics and material at the EMT level PLUS the following material:

- Introduction
- Basic Cellular Review
- Alteration in Cells and Tissues
- Cellular Injury
- Hypoperfusion

Life Span Development

Applies fundamental knowledge of life span development to patient assessment and management.

The AEMT IG's in this section include all the topics and material at the EMT level.

Public Health

Uses simple knowledge of the principles of the role of EMS during public health emergencies

The AEMT IG's in this section include all the topics and material at the EMT level PLUS the following material:

- Basic Principles of Public Health

Pharmacology

Applies (to patient assessment and management) fundamental knowledge of the medications carried by AMET's that may be administered to a patient during an emergency.

The AEMT IG's in this section include all the topics and material at the EMT level PLUS the following material:

Principles of Pharmacology

- Medication Safety
- Medication Legislation
- Naming
- Classifications
- Storage and Security
- Drug Terminology
- Pharmacological Concepts

Medication Administration

- Routes of Administration
- Administration of Medication to a Patient

Emergency Medications

- Specific Medications
- Special Considerations in Pediatrics and Geriatrics

Airway Management, Respiration and Artificial Ventilation

Applies knowledge (fundamental depth, foundational breadth) of upper airway 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.

The AEMT IG's in this section include all the topics and material at the EMT level PLUS the following material:

Airway Management

- Airway anatomy
- Airway assessment
- Techniques of assuring a patent airway
- Consider Age-Related Variations in Pediatric and Geriatric Patients

Respiration

- Anatomy of the respiratory system
- Physiology of respiration
- Pathophysiology of Respiration
- Assessment of Adequate and Inadequate Respiration
- Management of adequate and inadequate respiration
- Supplemental oxygen therapy
- Age-Related Variations in Pediatric and Geriatric Patients

Artificial Ventilation

- Comprehensive Ventilation Assessment
- The management of inadequate ventilation
- The Differences Between Normal and Positive Pressure Ventilation
- Consider Age-Related Variations in Pediatric and Geriatric Patients

Patient Assessment

Applies scene information and patient assessment findings (scene size-up, primary and secondary assessment patient history, and reassessment) to guide emergency management.

Scene Size-UP

The AEMT IG's in this section include all the topics and material at the EMT level.

Primary Assessment

The AEMT IG's in this section include all the topics and material at the EMT level PLUS the following material:

- Primary Survey/Primary Assessment
- Integration of Treatment/Procedures needed to Preserve Life
- Evaluating Priority of Patient Care and Transport

History Taking

The AEMT IG's in this section include all the topics and material at the EMT level.

Secondary Assessment

The AEMT IG's in this section include all the topics and material at the EMT level PLUS the following material.

- Assessment of Lung Sounds
- Special Considerations for Pediatric and Geriatric Patients

Monitoring Devices

The AEMT IG's in this section include all the topics and material at the EMT level PLUS the following material

- Blood Glucose Determination
- Other Monitoring Devices

Reassessment

The AEMT IG's in this section include all the topics and material at the EMT level.

Medicine

Applies fundamental knowledge to provide basic and selected advanced emergency care and transportation based on assessment finding for an acutely ill patient.

Medical Overview

The AEMT IG's in this section include all the topics and material at the EMT level PLUS the following material:

- Assessment Factors
- Major Components of the Patient Assessment
- Continued Assessment

Neurology

The AEMT IG's in this section include all the topics and material at the EMT level PLUS the following material:

- Stroke/TIA
- Headache
- Age-Related Variations for Pediatric and Geriatric Assessment and Management
- Communication and Documentation
- Transport Decisions – Rapid Transport to Appropriate Facility

Abdominal and Gastrointestinal Disorders

The AEMT IG's in this section include all the topics and material at the EMT level PLUS the following material:

- Define Acute Abdomen
- Anatomy of the Organs of the Abdominopelvic Cavity
- Assessment and Symptoms
- General Management for Patients with an Acute Abdomen
- Specific Acute Abdominal Conditions – Definition, Causes, Assessment Findings and Symptoms, Complications, and Specific Prehospital Management
- Consider Age-Related Variations for Pediatric and Geriatric Assessment and Management
- Pediatrics
- Communication and Documentation for Patient with an Abdominal or Gastrointestinal Condition or Emergency
- Transport Decisions

Immunology

The AEMT IG's in this section include all the topics and material at the EMT level PLUS the following material:

- Introduction
- Basic Immune System's Response to Allergens
- Pathophysiology
- Assessment
- Managing Anaphylaxis
- Age-Related Considerations

Infectious Diseases

The AEMT IG's in this section include all the topics and material at the EMT level PLUS the following material:

- Causes of Infectious Disease
- Standard precautions, Personal Protective Equipment, and Cleaning and Disposing of Equipment and Supplies
- Specific Diseases and Conditions
- Consider Age-Related Variations in Pediatric and Geriatric patients as they relate to assessment and management of patients with a gastrointestinal condition or emergency
- Communication and Documentation for a Patient with a Communicable or Infectious Disease
- Transport Decisions Including Special Infection Control Procedures
- Legal Requirements regarding reporting communicable or infectious diseases/conditions

Endocrine Disorders

The AEMT IG's in this section include all the topics and material at the EMT level PLUS the following material:

- Diabetic Emergencies
- Assessment
- Age-related Considerations
- Communication and Documentation

Psychiatric

- Define
- Epidemiology of Psychiatric Disorders
- Assessment
- Behavioral Change
- Psychiatric Emergencies
- Medical-Legal Considerations
- Consider Age-Related variations for Pediatric and Geriatric assessment and management
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Cardiovascular

- Anatomy of the Cardiovascular System
- Physiology
- Angina Pectoris/Acute Coronary Syndrome
- Acute Myocardial Infarction
- Irregularity of Pulse

Toxicology

- Introduction
- Poisoning by Ingestion
- Poisoning by Inhalation
- Poisoning by Injection
- Poisoning by Absorption
- Drugs of Abuse
- Poisonings and Exposures
- Medication Overdose
- General Treatment Modalities for Poisonings
- Toxic Syndromes
- Consider Age-Related Variations for Pediatric and Geriatric Assessment and Management
- Documentation and Communication

Respiratory

- Anatomy and Physiology
- Pathophysiology
- Assessment
- Treatment
- Communication and Documentation

Hematology

- Introduction
- Sickle Cell Disease
- Assessment
- Management
- Age-Related Considerations
- Documentation and Communication
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Genitourinary/Renal

- Anatomy and Physiology
- Assessment
- Management
- Documentation

Gynecology

The AEMT Instructional Guidelines in this section include all the topics and material at the EMT level

Non-Traumatic Musculoskeletal Disorders

The AEMT Instructional Guidelines in this section include all the topics and material at the EMT level

Diseases of the Eyes, Ears, Nose, and Throat

The AEMT Instructional Guidelines in this section include all the topics and material at the EMT level

Shock and Resuscitation

Applies fundamental knowledge to provide basic and selected advanced emergency care and transportation based on assessment findings for a patient in shock, respiratory failure or arrest, cardiac failure or arrest and post resuscitation management.

Shock and Resuscitation

- Ethical Issues in Resuscitation
- Anatomy and Physiology Review
- Cardiac Arrest
- Resuscitation
- Automated External Defibrillation (AED)
- Advanced Life Support
- Post-Resuscitation Support
- Shock
- Tissue Hypoperfusion
- Physiologic Response to Shock
- Categories of Shock
- Specific Types of Shock
- Complications of Shock
- Patient Assessment
- Management
- Age-Related Variations

Trauma

Applies fundamental knowledge to provide basic and selected advanced emergency care and transportation based on assessment finding for an acutely injured patient.

Trauma Overview

- Identification and Categorization of Trauma Patients

Bleeding

- Fluid Resuscitation in Bleeding and Shock
- Special Considerations in Fluid Resuscitation

Chest Trauma

- Traumatic Aortic Disruption
- Pulmonary Contusion
- Blunt Cardiac Injury
- Hemothorax
- Pneumothorax
- Cardiac Tamponade
- Rib Fractures
- Flail Chest
- Commotio Cordis

Abdominal and Genitourinary Trauma

- Incidence
- Anatomy
- Physiology
- Specific Injuries
- General Assessment
- General Management
- Age-Related Variations for Pediatric and Geriatric Assessment and Management
- Special Considerations of Abdominal Trauma

Orthopedic Trauma

- Amputations
- Pelvic Fractures
- Compartment Syndrome

Soft Tissue Trauma

- Incidence of Soft Tissue Injury
- Anatomy and Physiology of Soft Tissue Injury
- Closed Soft Tissue Injury
- Open Soft Tissue Injury
- General Assessment
- Management
- Incidence of Burn Injury
- Anatomy and Physiology of Burns
- Complications of Burn Injuries
- General Assessment of Burn Injuries
- General Management
- Specific Burn Injury Management Considerations
- Age-Related Variations

Head, Facial, Neck, and Spine trauma

- Facial Fractures
- Laryngeotracheal Injuries

Nervous System

- Incidence of Traumatic Brain Injury
- Traumatic Brain Injury

Special Considerations in Trauma

- Trauma in Pregnancy
- Pediatric Trauma
- Geriatric Trauma
- Cognitively Impaired Patient Trauma

Environmental Emergencies

The AEMT Instructional Guidelines in this section include all the topics and material at the EMT level

Multi-System Trauma

- Kinematics of Trauma
- Multi-System Trauma
- Specific Injuries related to Multi System Trauma

Special Patient Populations

Applies a fundamental knowledge of growth, development, aging, and assessment findings to provide basic and selected advanced emergency care and transportation for a patient with special needs

Obstetrics

The AEMT Instructional Guidelines in this section include all the topics and material at the EMT level

Neonatal care

The AEMT Instructional Guidelines in this section include all the topics and material at the EMT level

Pediatrics

The AEMT Instructional Guidelines in this section include all the topics and material at the EMT level

Geriatrics

The AEMT Instructional Guidelines in this section include all the topics and material at the EMT level PLUS the following material:

- Fluid Resuscitation in the Elderly

Patients with Special Challenges

- The AEMT Instructional Guidelines in this section include all the topics and material at the EMT level PLUS the following material:
 - Abuse and Neglect
 - Homelessness/Poverty
 - Bariatric Patients
 - Technology Assisted/Dependent
 - Hospice Care and Terminally Ill
 - Tracheostomy Care
 - Sensory Deficits
 - Homecare
 - Patient with Developmental Disability

EMS Operations

Knowledge of operational roles and responsibilities to ensure safe patient, public, and personnel safety.

Principles of Safely Operating a Ground Ambulance

The intent of this section is to give an overview of emergency response to ensure EMS personnel, patient, and other's safety during EMS operations. This does not prepare the entry-level student to be an experienced and competent driver

Information related to the clinical management of the patient during emergency response is found in the clinical sections of the National EMS Education Standards and Instructional Guidelines for each personnel level.

The AEMT Instructional Guidelines in this section include all the topics and material at the EMT level

Incident Management

Information related to the clinical management of the patient during emergency response is found in the clinical sections of the National EMS Education Standards and Instructional Guidelines for each personnel level.

- Establish and Work within the Incident Management System
 - Entry-Level Students Need to be Certified in
 - 1. ICS-100: Introduction to ICS, or equivalent
 - 2. FEMA IS-700: NIMS, An Introduction
 - This can be done as a Co requisite or Pre requisite or as part of the Entry-Level Course

Multiple Casualty Incidents

The EMT Instructional Guidelines in this section include all the topics and material at the EMT and EMT levels

Air Medical

- Safe Air Medical Operations
- Criteria for Utilizing Air Medical Response

Vehicle Extrication

- Safe vehicle extrication
- Use of simple hand tools
- Special Considerations for Patient Care
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Hazardous Materials Awareness

- Risks and responsibilities of operating in a cold zone at a hazardous material or other special incident

Special Incident

Entry-Level Students need to be Certified in

- Hazardous Waste Operations and Emergency Response (HAZWOPER) standard. 29 CFR 1910.120(q)(6)(i) – First Responder Awareness Level
- This can be done as a Co requisite or Pre requisite or as part of the Entry-Level Course

Mass Casualty Incidents due to Terrorism and Disaster

- Risks and responsibilities of operating on the scene of a natural or man made disaster

NATIONAL EDUCATIONAL STANDARD

These hours are recommended hours only. The program and training should be based on successful completion of all AEMT competencies [didactic, psychomotor and affective domains]

ADVANCED EMERGENCY MEDICAL TECHNICIAN	Classroom Hours	Lab Hours	Total Hours	Comment
Preparatory	4	0	4	Review from EMT level
EMS systems				
Research				
Workforce Safety & Wellness				
Documentation				
EMS System Communications				
Therapeutic Communication				
Medical/Legal and Ethics				
Anatomy and Physiology	4	0	4	
Medical Terminology	1	0	1	
Pathophysiology	14	0	14	Include acid-base balance
Life Span Development	0.5	0	0.5	
Public Health	0.5	0	0.5	
Pharmacology	8	16	24	
...Principles of Pharmacology	2	0	2	
Medication Administration	4	12	16	10 9adults/peds)
Emergency Medications	2	4	6	

Airway Management, Respiration and Artificial Ventilation	8	14	22	
Airway Management	4	0	4	Dual lumen, venture, simple & NRB masks
Respiration	2	14	16	
Artificial Ventilation	2	0	2	Waveform capnography, CPAP, ATV, blind Insertion Airway Devices
Assessment	7	14	21	
Scene Size-Up	0.5	0	0.5	
Primary Assessment	2	6	8	
History Taking	0.5	0	0.5	
Secondary Assessment	2	6	8	
...Monitoring Devices	1	2	3	
Reassessment	1	0	1	
Medicine	17	11	28	
Medical Overview	0.5	0	0.5	
Neurology	1	1	2	
Abdominal and Gastrointestinal Disorders	1	0.5	1.5	
Immunology	1	0.5	1.5	
Infectious Diseases	1	0	1	
Endocrine Disorders	1	1	2	
Psychiatric	1	0	1	
Cardiovascular	4	4	8	12-Lead ECG application
Toxicology	2	2	4	
Respiratory	1	2	3	
Genitourinary/Renal	1.5	0	1.5	
Gynecology	0.5	0	0.5	
...Non-Traumatic Musculoskeletal Disorders	0.25	0	0.25	
Diseases of the Eyes, Ears, Nose and Throat	0.25	0	0.25	

Shock and Resuscitation	8	8	16	Cardiac Compression Devices
Trauma	18	15	33	
Trauma Overview	1	0	1	
Bleeding	3	1	4	
Chest Trauma	2	2	4	
Abdominal and Genitourinary Trauma	2	1	3	
Orthopedic Trauma	1	1	2	
Soft Tissue Trauma	1	1	2	
*Head, Facial, Neck and Spine Trauma	2	2	4	Consider combining with Nervous system Trauma (Lab)
...Nervous System Trauma	2	2	4	
Special Considerations in Trauma	2	2	4	
Environmental Emergencies	1	0	1	Scenarios incorporated in other labs
Multi-System Trauma	1	3	4	Oklahoma Trauma Training here
Special Patient Populations	3	3	8	
Obstetrics	1	1	2	
Neonatal Care	1	1	2	
Pediatrics	1	1	2	See Special Considerations in Trauma
...Geriatrics	1	0	1	
Patients with Special Challenges	1	0	1	
EMS Operations	4	2	6	See EMT level information
Principles of Safely Operating a Ground Ambulance				

Incident management				NIMS Co or Pre requisite
Multiple Casualty Incidents				
Air Medical				
Vehicle Extrication				
Hazardous Materials Awareness				HAZWOPER Co or Pre requisite
Mass Casualty Incidents due to Terrorism and Disaster				
AEMT TOTALS	97	83	180	
AEMT Clinical Hours			140	
AEMT TOTAL HOURS			320	

<u>AEMT Clinical Competencies</u>	<u>#s</u>	<u>Hospital or field clinical application on patients</u>
Patient assessment (advanced)	10	5 trauma/5 medical ALS
Patient history	5	
Intravenous therapy (successful)	20	
Blood sampling	5	
Intraosseous	1	May be done in classroom if unable in clinical
Advanced airway procedures	10	ETT or BIAD
Endotracheal Intubations	5	See OSDH Intubation policy on other options
Waveform Capnography application	10	
CPAP or BiPAP application/use	3	
Drug administration	10	
Emergency ALS Run Patient Care Report	5	
Radio Report on Emergency ALS patient	3	

AEMT Clinical Rotations

Operating Room	32
IV Lab	12
E.D.	36
Field ALS	60

Note: These hours are minimums and successful course completion should be based on minimum clinical competencies

OKLAHOMA AEMT COMPETENCIES

**Skill - Airway/Ventilation/Oxygenation	Date	Approved
Airway - Blind Insertion Airway Device (BIAD)		
Airway – oral		
Airway-nasal		
Bag-valve-mask (BVM)		
Cricoid pressure (Sellick's Maneuver)		
Head tilt - chin lift		
Jaw-thrust		
Jaw-thrust - Modified (trauma)		
Mouth-to-Barrier		
Mouth-to-Mask (with one-way valve)		
Obstruction/FBAO – Manual		
Oxygen tank use/safety/administration		
Oxygen therapy – Nasal Cannula Non-rebreather Mask Partial rebreather mask Simple face mask Venturi mask		
Automated transport ventilators (ATV)		
Suctioning – Upper Airway Rigid tip Flexible tip		
Pulse oximetry		
*BiPAP/CPAP		
Demand valve (manual & triggered) *PEEP – therapeutic		
*End tidal CO2 monitoring		
*Capnography – Wave form (recording)		
*Intubation- nasotracheal (with capnography)		
*Intubation – orotracheal (with capnography)		

**Skill-Cardiovascular/Circulation/Trauma		
Cardiopulmonary resuscitation (CPR)		
Defibrillation – automated / semi-automated		
Hemorrhage control – direct pressure		
Hemorrhage control – tourniquet		
Bandaging		
Shock Treatment		
Trauma Patient Assessment		
*Cardiac Monitoring (3 and 12 lead ECG application only)		
*Mechanical CPR device		

*Chest Injury treatments Blunt trauma Penetrating		
Abdominal injury treatments		
Nose bleeds		
Impaled objects		
**Skill Immobilization		
Spinal immobilization – cervical collar		
Spinal immobilization – long board		
Spinal immobilization – manual		
Spinal immobilization – seated patient (KED, etc.)		
Spinal immobilization – rapid manual extrication		
Extremity stabilization - manual		
Extremity splinting		
Splinting -traction		
Mechanical patient restraints		
*Pelvic splint		
Emergency moves for endangered patients		
Cervical Immobilization Device (CID)		
**Skill-Medication Administration - Routes		
Assisting a Patient with His/Her Own Prescribed Medications (Aerosolized/Nebulized)		
Aerosolized/nebulized (beta agent) (per protocols)		
*Buccal		
Endotracheal tube		
Inhaled – self-administered (nitrous oxide)		
Intramuscular (epinephrine or glucagon)		
Intranasal (naloxone)		
Intravenous push (dextrose 50%)		
Auto-Injector (self or peer care)		
Oral -glucose		
Oral - Aspirin		
Auto-injector (patient’s own prescribed meds)		
Subcutaneous epinephrine		
*Nitro assist (patient’s own prescribed medication) (per protocol)		

**Skill – IV Initiation/Maintenance of Fluids		
Intravenous – maintenance of non-medicated IV fluids		
Intraosseous – initiation (adult and pediatric)		
Intravenous access (venous blood draw)		
Intravenous access (peripheral)		
**Skill - Miscellaneous		
Assisted delivery (normal childbirth)		
Assisted delivery (abnormal childbirth) (breech, limb, etc.)		
Blood glucose monitoring		
Blood pressure automated		
Blood pressure – manual		
Eye irrigation		
Eye irrigation-Morgan lens		
*Hand washing		
Patient Assessment Primary assessment Secondary assessment		
History taking skills (SAMPLE/OPQRST)		
Vital Signs		
*Landing Zone (Live helicopter lab recommended, classroom session required)		
Medical Assessment		
Lifting and Moving Urgent Nonurgent		
Personal protective equipment/body substance isolation use		
Pre-hospital Stroke assessment (Cincinnati, LA, etc.)		
E.V.O.C. (optional)		

******These should include adult, child and pediatrics skills.

*These are items added to the National Standard Guidelines.

Note: These competencies are very broad and should be broken down into more specific or individual competencies for initial training purposes.