

TRILOGY

EMERGENCY MEDICAL SOLUTIONS

FL EMS PROVIDER #50-29993

EMERGENCY VEHICLE OPERATOR COURSE

EVOC Provider Program

Student Textbook & Workbook

Combined Edition

Student Name: _____

Course Date: _____

Instructor: _____

About This Course Manual

This combined Student Textbook and Workbook is the official course manual for the Trilogy Emergency Medical Solutions Emergency Vehicle Operator Course (EVOC) Provider Program. It integrates the didactic content and student exercises into a single, self-contained resource designed to accompany classroom instruction and the supervised driving practical.

Each lesson contains three parts:

- **Lesson Content** — the instructional narrative, definitions, procedures, and explanations the student is expected to master.
- **Think About It** — reflective prompts embedded in the reading to encourage application and critical thinking.
- **Workbook Exercises** — written knowledge checks, short-answer items, and scenario questions used to reinforce and evaluate learning.

Space is provided throughout for handwritten responses. Students should bring this manual to every session of the course.

Course Goal

To provide ambulance operators with the knowledge and skills required to operate emergency vehicles so that the vehicle, equipment, crew, and patients will be delivered safely and efficiently, and so that the safety of the public is assured during all phases of the delivery of Emergency Medical Services (EMS) involving the ambulance.

Scope and Limitations

IMPORTANT — WHAT THIS COURSE DOES NOT COVER

- This course does not cover pursuit driving or high-speed operation of an ambulance.
- The U.S. Department of Transportation recommends operating at or below posted speed limits and getting to the scene safely.
- Organizational SOPs/SOGs, state law, and the law of due regard govern emergency vehicle operation in every situation and take precedence over general guidance in this manual.

Publisher

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How to Use This Manual

This manual is your single reference for the Emergency Vehicle Operator Course. Use it in the classroom, bring it to the driving range, and keep it as a field reference after you complete the course.

Navigating the Lessons

Each of the ten lessons follows the same three-part structure:

LESSON STRUCTURE

- **LEARNING OBJECTIVES** — what you will be able to do at the end of the lesson.
- **CORE CONTENT** — the instructional material, definitions, procedures, rules, and worked examples.
- **WORKBOOK** — written exercises: knowledge checks, scenario questions, and short-answer items.

Callout Boxes

Watch for the following visual cues throughout the manual:

DEFINITION

A formal definition of a legal, operational, or technical term. Expect these to appear on the course examination.

KEY POINT

Critical safety, legal, or operational rules. Read carefully. These are non-negotiable.

THINK ABOUT IT

Reflective prompts for discussion or personal consideration. Not formally graded, but expect related concepts in class discussion and the final examination.

SCENARIO

A realistic case or situation. Read the scenario, consider the question, and write your response. Scenarios are discussed in class.

Workbook Sections

At the end of each lesson, the Workbook section provides space for written responses. Use pen or pencil, write legibly, and complete all items before the lesson review.

Your instructor may collect the workbook pages for evaluation, review them during one-on-one discussion, or use them as the basis for the class knowledge check.

Lesson 1

Introduction to Emergency Vehicle Operation

Lesson Goal

To provide ambulance operators with the knowledge and skills to operate their vehicles so that vehicle, equipment, crew, and patients will be delivered safely and efficiently, and the safety of the public will be assured during all phases of the delivery of Emergency Medical Services (EMS) involving the ambulance.

Course Overview

In this course, you will learn about the following seven content areas. Each is developed in greater depth in its own dedicated lesson.

- Legal aspects of ambulance operation
- Communication and reporting
- Ambulance types and their operation
- Ambulance readiness — inspection, maintenance, and repair
- Navigation and route planning
- Driving risks and skills
- Safety considerations

COURSE SCOPE

- This course does not cover pursuit driving or high-speed operation of an ambulance.
- The U.S. Department of Transportation recommends operating at or below posted speed limits and getting to the scene safely.
- Always follow your agency SOPs, state law, and the law of due regard.

Who Is This Course For?

This course is for EMS providers, firefighters, and other emergency personnel who operate an ambulance or other emergency response vehicle as part of their assigned duties. It is appropriate for new operators preparing for their first solo driving assignment and for experienced operators completing recurring training.

Content Areas at a Glance

Legal Aspects

Legal aspects of ambulance operation include appropriate vehicle procedures based upon federal, state, local, and organization regulations, due regard, true emergencies, negligence, abandonment, Good Samaritan provisions, and patient rights. These topics are covered in depth in Lesson 2.

Communication

Communication covers the operator's responsibilities for receiving and sending radio messages and for interpreting hand signals. The detail is developed in Lesson 3.

Ambulance Types and Operation

Ambulance types and operation includes general guidelines about weight restrictions and operation characteristics for each type of ambulance. Type I, Type II, and Type III ambulances, along with their Additional Duty (AD) variants, are covered in Lesson 4.

Ambulance Readiness

Ambulance readiness includes inspection, maintenance, and repair. You will learn the difference between safe-to-operate and out-of-service conditions, how to perform a systematic inspection, and when to escalate defects. See Lesson 5.

Navigation and Route Planning

Navigation and route planning includes selecting the safest route to the emergency scene and the medical facility. Route planning also accounts for vehicle limits (height, weight, length) when evaluating bridges, canopies, garages, and tight turns. See Lesson 6.

Driving Situations and Skills

The course covers normal and high-risk driving situations and the appropriate driving skills for situations ranging from routine traffic to hazardous weather and traffic conditions. Basic maneuvers and normal operations are covered in Lesson 7; emergency-mode operations are covered in Lesson 8.

Safety Considerations

Safety considerations include ensuring the safety of passengers, patients, their families, the ambulance, and the crew. Special situations — scene hazards, vehicle placement, warning devices, and coordination with other responders — are covered in Lesson 9.

Driver Selection

There is a selection process that is used before drivers are hired in which overall qualifications are reviewed. This review may include driving record checks, medical checks, and vocational tests. Many organizations will conduct this review process again once a driver is hired, either annually or on a rolling basis.

Maintaining Driver Qualifications

All drivers should maintain their driver qualifications by:

- Keeping their license up to date and valid.
- Reporting any violations received when driving a personal vehicle.
- Remaining physically and mentally fit.
- Participating in available training — including recurring EVOC refreshers and the annual driving practical.

THINK ABOUT IT

- ▶ What motivated you to become an emergency vehicle operator, and what concerns do you bring into this course?
- ▶ Think of one driving habit you have in your personal vehicle. Should it carry over to the ambulance, or should it change?

WORKBOOK — LESSON 1: INTRODUCTION

Complete all items. Write legibly. Your instructor may collect these pages.

Section A — Knowledge Check

1. In your own words, describe “due regard” and how it guides your behavior at intersections. (Use course language.)

2. Write a brief radio message you might send upon arrival to a scene. Include unit ID, location, and a concise status.

3. List two safety actions that protect (a) the patient or family and (b) the crew or ambulance during transport.

4. Name two legal topics, besides due regard, covered in this lesson.

5. Give one example of how weight restrictions or vehicle type could influence how you operate the ambulance.

6. List two things you would check during an inspection as part of readiness, and explain why each matters.

Section B — Self-Assessment

7. Rate your current comfort (1–10) with (a) driving a large vehicle, (b) backing with a ground guide, and (c) radio communication. Identify the area you most want to improve during this course.

8. What is one habit from your personal driving you will intentionally leave behind when you step into the ambulance? Why?

Lesson 2

Legal Aspects of Ambulance Operation

Lesson Goal

To provide participants with knowledge of the federal, state, and local laws and of how to apply those laws when operating an ambulance.

Learning Objectives

At the end of this lesson, you will be able to:

- Define key legal concepts that govern ambulance operation — due regard, true emergency, negligence, and abandonment.
- Differentiate federal, state, and local requirements and identify where to find your agency's policies.
- Apply exemptions safely and appropriately while maintaining the law of due regard.
- Respect patient rights — consent and confidentiality — during response, transport, transfer, and documentation.
- Analyze real-world scenarios and justify response mode decisions using a structured checklist.

Responsibility of the Operator

As an ambulance operator, you are responsible for the safe and efficient transportation of your patients and crew. At the same time, you must look out for the safety of the public. These responsibilities are simultaneous — none of them can be traded for another. A faster trip that injures a bystander, damages the ambulance, or puts the crew at risk is not an acceptable outcome.

Types of Laws — Where They Apply

Emergency vehicle operation is governed by a hierarchy of legal sources. Each layer binds you and may impose requirements in addition to — but never in conflict with — the layer above it.

- **Constitutional:** Protects civil rights (for example, limits on unreasonable search/seizure during patient care).
- **Statutory:** State EMS acts, vehicle codes, and Good Samaritan laws.
- **Ordinances:** Local traffic controls, sound policies, and ambulance parking/zoning rules.
- **Rules/Regulations:** State EMS rules, agency SOPs and SOGs, and HIPAA administrative rules.

- **Policies:** Federal, state, local, and organizational guidelines.

RULE OF PRIORITY

- Always align with the highest applicable standard.
- Law > regulation > policy.
- A policy that allows what the law prohibits is invalid — follow the law.

THINK ABOUT IT

- ▶ How can you stay up to date on laws, regulations, and policies that apply to your agency?

Exemptions

Most states grant emergency vehicle operators limited exemptions from certain traffic laws when operating in emergency mode. These exemptions typically allow the operator to:

- Exceed the posted speed limit when operating with due regard.
- Proceed through a red signal or stop sign after coming to a stop or slowing sufficient to ensure safe passage.
- Disregard regulations governing direction of movement or turning in specified directions.
- Park or stand where ordinarily prohibited.

Exemptions — Limits and Expectations

Exemptions are not a license to ignore the law. They are limited privileges that come with explicit expectations:

- Exemptions apply only when a true emergency exists.
- Exemptions almost always require the use of audible and visual warning devices.
- Exemptions do not relieve the operator of the duty to drive with due regard for the safety of all persons.
- Exemptions do not protect the operator from the consequences of a reckless act.

Law of Due Regard

DEFINITION — DUE REGARD

A reasonably careful person, performing similar duties and under similar circumstances, would act in the same manner.

Due regard is the legal standard by which the operator's conduct is measured. It is an objective test: a court or review board asks what a reasonable ambulance operator would have done in the same situation, with the same information, at the same time. It does not ask what the operator intended or what the outcome happened to be.

In practice, due regard requires the operator to:

- Slow or stop at every intersection, regardless of signal or right of way.
- Confirm that other drivers have actually yielded — not simply that the law required them to yield.
- Reduce speed in adverse conditions, in school zones, and when approaching crowds or scenes.
- Downgrade from emergency mode when updated information no longer supports it.

THINK ABOUT IT

▶ You proceed through a red signal with lights and siren at 25 mph and strike a vehicle that did not yield. Describe, in one or two sentences, how a reviewer would evaluate your conduct under due regard.

True Emergency Situation

DEFINITION — TRUE EMERGENCY

A situation involving a high probability of death or serious injury to an individual, and in which action by the operator may reduce the seriousness of the situation.

Two elements must be present for a true emergency to exist:

1. A high probability of death or serious injury.
2. Action by the operator may reduce the seriousness of the outcome.

If either element is absent, the situation is not a true emergency and emergency-mode operation is not justified. A patient with a minor injury, a stable chronic condition, or a non-life-threatening complaint does not meet this definition, regardless of how the call was initially dispatched.

Negligence

DEFINITION — NEGLIGENCE

Any action which violates a standard of practice or care.

Elements of Negligence

To prevail in a negligence claim, a plaintiff must establish all four of the following elements:

1. **Duty** — the operator owed a legal duty of care (for example, the duty of due regard).
2. **Breach** — the operator failed to meet that duty.
3. **Causation** — the breach caused the harm (both “but-for” causation and proximate causation).
4. **Damages** — the plaintiff suffered actual harm (physical, financial, or emotional).

How Negligence Happens in Practice

- **Speed for conditions:** Driving too fast for conditions — even below the posted limit — is a potential breach, even with warning devices active.
- **Securement:** Failure to secure a patient or equipment that leads to injury establishes causation directly.
- **Documentation:** A run report that omits rationale for lights-and-siren weakens defense. Write your decision-making, not just your observations.

Abandonment

DEFINITION — ABANDONMENT

The act of refusing to transfer care or terminating transportation prior to being relieved by other qualified health care providers.

Avoiding Abandonment

- Once you have begun a patient/provider relationship, you are obligated to continue care until you transfer care to a provider of equal or higher level of training.
- Provide a complete verbal and written patient report at the point of transfer.
- Document the receiving provider's name, credential level, time, and location.
- If a transfer is refused at the receiving facility, contact your supervisor and medical director before terminating care.

Good Samaritan Provision

DEFINITION — GOOD SAMARITAN PROVISION

A law that protects persons who give aid at the scene of an emergency from liability for additional damage or injury caused during the provision of that aid.

Good Samaritan — Typical Limits

Good Samaritan protections vary significantly by state, but typical limits include:

- Protection applies only when the provider acts in good faith and without expectation of compensation.
- Protection typically does not extend to on-duty providers operating within the scope of their employment.
- Protection does not cover gross negligence or willful misconduct.
- Protection does not apply after a duly authorized emergency service arrives and takes over.

THINK ABOUT IT

- ▶ If you stop at a roadside crash off duty, what should you identify yourself as — and why does it matter?

Patient Rights

Patients retain their legal and ethical rights throughout the emergency. Two are especially important to the operator: consent and confidentiality.

Patient Rights — Consent

Consent authorizes your treatment of the patient. Know the four common categories:

- **Expressed:** The patient verbally or in writing agrees to care and transport.
- **Implied:** In an unresponsive or life-threatening situation, the law assumes the patient would consent.
- **Minors/Incapacitated:** Follow state law for the appropriate guardian or authorized decision-maker. Implied consent applies in life-threatening emergencies.
- **Refusals:** Assess capacity, explain the risks and alternatives, obtain a witness, and document thoroughly.

Patient Rights — Confidentiality

- Share protected health information (PHI) only with those involved in care, payment, or operations as permitted by policy.
- Use discretion on scene and in public spaces; shield reports from bystanders and cameras.
- On radio reports, avoid names and identifiers where possible; use secure channels when available.
- If a breach occurs, immediately notify your supervisor and Privacy Officer per policy.

Other Legal Issues

Additional legal concerns the operator should be aware of include: vehicle insurance, workers compensation, records retention, mandatory reporting (child abuse, elder abuse, gunshot wounds), chain-of-custody for evidence, and HIPAA. Your agency should have written policies on each of these topics.

Case Scenarios

SCENARIO 1 — TRUE EMERGENCY?

You are returning from a run when a car pulls up beside you while you are stopped at a traffic light. The individual informs you that a three-vehicle crash has just occurred on the nearby interstate. No other emergency vehicles are at the scene. The individual informs you that several of the victims are trapped in the cars. The severity of the injuries is unknown.

Is this a true emergency situation? Why?

DISCUSSION — SCENARIO 1

This is a true emergency. Because so little information is known about the injuries or about any other circumstances, the operator must assume a true emergency. In this case, the operator is determining the nature of the emergency. Always call the dispatcher to tell them about the situation and get instructions.

SCENARIO 2 — DUE REGARD?

Your ambulance is traveling the wrong way down a one-way street while en route to a fire at a large apartment complex where people are reported injured. You are using all signaling equipment.

Are you observing due regard? Why?

DISCUSSION — SCENARIO 2

Yes, because a true emergency does exist. The ambulance operator is complying with the statute (using signaling equipment) while violating the normal direction of movement (traveling the wrong way on a one-way street). Without more information to indicate why traveling the wrong way down this street might be unsafe, the operator appears to be exercising due regard.

SCENARIO 3 — DOWNGRADE?

A dispatcher reports that a man phoned requesting help. The man is hysterical, and the dispatcher cannot determine the extent of the injuries. You respond in emergency mode. En route, the dispatcher calls back. He reports the man has calmed down and now thinks his son may have broken his ankle; there is some pain and swelling.

Is this a true emergency situation? Why?

DISCUSSION — SCENARIO 3

Most likely no. Even though the call started as a true emergency, the dispatcher changed the nature of the emergency during the run. Unless local policy dictates otherwise, a broken bone is generally not considered a threat to human life. Downgrade to non-emergency mode and continue to the scene.

Lesson Summary

- Federal, state, and local guidelines dictate emergency vehicle operation.
- Organizational requirements must incorporate and not contradict federal, state, or local requirements.
- There are certain situations where the ambulance operator may be exempt from regulations — know the exemptions for your state.
- Operators must exercise due regard for the safety of all patients, passengers, and the public.
- Operators should not operate under emergency response conditions unless a true emergency exists.
- Operators need to “think safety” to avoid negligence charges.
- Once the operator begins the patient/provider relationship, they have an obligation to continue care until relieved by qualified providers.
- Patients have rights such as consent and confidentiality in medical emergency situations.

WORKBOOK — LESSON 2: LEGAL ASPECTS

Complete all items. Cite the lesson where helpful. Your instructor may collect these pages.

Section A — Definitions

1. Define due regard in your own words.

2. Define true emergency and list the two elements that must both be present.

3. List the four elements of negligence in order.

4. Define abandonment and describe how to avoid it.

Section B — Multiple Choice

5. Which of the following is the HIGHEST authority in the hierarchy of legal sources?
- A. Agency SOP
 - B. State statute
 - C. Local ordinance
 - D. Organizational policy
6. An ambulance operator's exemption from traffic laws applies only when:
- A. The operator activates warning devices.
 - B. A true emergency exists and due regard is maintained.
 - C. The operator is in uniform.
 - D. Dispatch has authorized emergency mode.
7. Good Samaritan protection typically does NOT extend to:
- A. A bystander who stops to help at a crash.
 - B. An off-duty nurse rendering aid in good faith.
 - C. An on-duty provider operating within the scope of employment.
 - D. A physician who stops at a highway collision.

Section C — True / False

8. A patient who is unresponsive after being struck by a car may be treated under implied consent.
- TRUE FALSE
9. Because you activated lights and siren, you are automatically protected from a negligence claim if you strike another vehicle.
- TRUE FALSE
10. Once you begin care, you may terminate the patient/provider relationship at any time without transfer of care.
- TRUE FALSE

Section D — Short Answer

11. Describe two things you will include in your run report to document the rationale for operating in emergency mode.

12. Give one example, from your own experience or from this lesson, of a situation that was dispatched as emergent but should have been downgraded. How should the operator handle it?

13. List three specific actions you take to protect patient confidentiality during a routine transport.

Lesson 3

Communication and Reporting

Lesson Goal

To provide participants with knowledge of the communication roles and responsibilities and the protocols for receiving and sending messages.

Learning Objectives

- Explain the operator's role and responsibilities during radio communication.
- Compose concise, plain-English messages using a consistent structure.
- Use the phonetic alphabet and repeat-backs to eliminate ambiguity.
- Demonstrate effective sending and receiving techniques in realistic scenarios.

Operator Responsibilities — Quick Guide

Every transmission from your unit reflects on your crew and your agency. Your responsibilities during radio communication are:

- Listen before you transmit. Do not step on an active transmission.
- Keep the radio volume at a level where you can hear traffic without distraction.
- Know your unit ID and call signs for Dispatch, hospitals, and common partner agencies.
- Use plain English. Avoid 10-codes unless your SOP specifically requires them.
- Protect patient confidentiality. Do not transmit names or identifiers on open channels.

THINK ABOUT IT

- ▶ While driving, when is it safer to hand the mic to your partner versus transmit yourself?
- ▶ What's the very first thing you should say when you key up? Why does the order matter?

Routine Reporting Points

Dispatch, the receiving hospital, and your supervisor rely on a small number of high-value updates during every call. Transmit at the following points:

- **En route:** unit status and time, response mode, crew size.
- **On scene:** arrival time, scene safety hazards, need for additional resources.
- **Patient update:** age/sex, chief complaint, ABCs, priority, ETA to hospital.

- **Transport:** destination, ETA, changes in condition, downgrades or upgrades.

THINK ABOUT IT

- ▶ You're en route. In under 10 seconds, what three facts will Dispatch care about most?
- ▶ On scene of a minor MVC — what's your one-sentence headline?

Operator Information — What Dispatch Needs

Before you key up, have the following ready in your mind:

- Unit ID — who you are.
- Location — exact address, milemarker, or cross streets.
- Headline — a one-sentence description of what you have.
- Ask — resources, notifications, or confirmations you need.

Steps for Radio Transmission

Radio Transmission — Etiquette

- **Think → key → speak:** pause one beat after keying to avoid clipping the first word.
- **Short transmissions:** one idea per key-up.
- **Microphone position:** hold the mic about 1–2 inches from your mouth and speak across, not into, the mic.
- **Close properly:** end with your unit ID when appropriate; await acknowledgment.

Sending Messages — The Five-Part Structure

1. Radio Channels

Know your primary dispatch channel, your tactical channel, your hospital-notification channel, and your mutual-aid channel. Confirm you are on the correct channel before every transmission — especially after using a portable radio inside a building.

2. Composing Messages

Before you key up, plan the message in your head:

- Plan your message.
- Identify the person called, then the calling unit.
- Be brief and concise.
- Use plain English.
- Pronounce words clearly.

- Spell phonetically when needed.
- Repeat directions.

THINK ABOUT IT

- ▶ How would you re-order this message into the 5-part format: “Send another unit, elderly fall, we're Medic 4, 1200 Walden Road, need lift assist, BLS?”
- ▶ Which single clause in your size-up most influences resource requests?

3. Structure of Message

Every transmission should follow the same order. Your partner, Dispatch, and the hospital all know what to expect.

1. Who you are + who you need. (“Dispatch, Medic 4...”)
2. Situation headline. (what/where/priority)
3. Critical details only. (hazards, number of patients)
4. Clear ask. (resources/notifications)
5. Confirmation. (repeat-back if needed)

4. Word Choice for Clarity

- Use plain language. “Motor vehicle crash with entrapment” is clearer than a code.
- Speak digits one at a time for addresses. “Four-one-two” is clearer than “four hundred twelve.”
- Use cross streets and landmarks to confirm ambiguous locations.
- Avoid jargon on open channels; the receiving party may not share your vocabulary.

THINK ABOUT IT

- ▶ How would you rephrase this statement in plain English: “10-24, subject with AOx3, ETA five mikes.”
- ▶ What's a patient identifier you should not say on an open channel — and how would you say it instead?

5. Phonetic Alphabet

Use the NATO/ICAO phonetic alphabet to spell names, streets, plates, or any word where a misheard letter could cause an error.

A	Alpha	N	November
B	Bravo	O	Oscar
C	Charlie	P	Papa
D	Delta	Q	Quebec
E	Echo	R	Romeo
F	Foxtrot	S	Sierra
G	Golf	T	Tango
H	Hotel	U	Uniform
I	India	V	Victor
J	Juliett	W	Whiskey
K	Kilo	X	X-ray
L	Lima	Y	Yankee
M	Mike	Z	Zulu

Examples: "Medic 4 at S-M-Y-T-H-E — Sierra, Mike, Yankee, Tango, Hotel, Echo — Street."

Radio Scenarios

SCENARIO 1 — URBAN APARTMENT FIRE

Mid-day in a dense downtown. Your unit approaches 412 Smythe Street (pronounced “SMYTHE”), a 6-story brick apartment. Heavy gray smoke from the 4th–5th floors with visible flame in two windows. Several residents wave from the sidewalk; two are seated and coughing. The street is one-way in the opposite direction of your approach; cars are queued and blocking access. A hydrant is visible half a block past the address. No fire units have arrived yet.

You observe: traffic congestion, you can't pull curbside without clearing cars; at least 3 potential patients (two with smoke irritation, one dizzy/weak); wind pushing smoke across the street; visibility fair; no collapse risk seen. Cross street: Oak Avenue — best staging may be Oak & Smythe intersection.

Task: Craft a ≤10-second transmission to Dispatch that includes your headline, key hazards, approximate patient count, and your resource ask plus staging.

MODEL TRANSMISSION — SCENARIO 1

Unit ID first; clear location with cross street.

Headline: “apartment fire with multiple injured.”

Hazards: smoke, blocked access, one-way traffic.

Ask: additional EMS units for multiple patients; fire (if not yet en route) and PD for traffic; utilities if needed.

Staging/approach instruction — for example, “stage at Oak & Smythe.”

Close with your unit ID and “standing by for fire arrival and patient update.”

SCENARIO 2 — HIGHWAY MVC WITH FUEL LEAK

Late afternoon on US-17 northbound, MM 142, single-lane construction zone. You arrive first to a pickup-vs.-compact-SUV collision with a third vehicle (contractor truck) stopped behind them. Moderate front-end damage to the compact; the pickup is turned sideways blocking the lane.

You observe: smell of gasoline near the compact, a slow drip visible; one adult walking with a limp, two seated and alert; bystanders waving cars around the scene; no visible fire; extinguishers not available; traffic is backing up fast; roadway shoulder is narrow.

Task: Craft a ≤10-second transmission that sets scene control, identifies hazards, estimates patient count (3), and requests resources.

MODEL TRANSMISSION — SCENARIO 2

Unit ID and exact location (US-17 NB, MM 142, single-lane construction).

Headline: “MVC with possible fuel leak, lane blocked.”

Patient estimate and current priority if known (“three patients, all conscious”).

Ask: fire for spill control, additional EMS for multiple patients, law enforcement/DOT for traffic control.

Brief access note (“limited shoulder”).

Hold radio time — promise an update after primary triage.

SCENARIO 3 — CONFIRMING THE RIGHT ADDRESS

Dispatched to 76 Schuyler Court in a mixed residential/retail area. There is also a “Skyler Street” one mile away; both share the same zip code. Your map app keeps autocorrecting to the wrong one. The primary channel is busy; you have a short opening to transmit.

You observe: caller reported an elderly person dizzy and pale; breathing is normal.

Landmark: Riverside Park tennis courts directly across from the correct address. You're 4 minutes out; traffic is light to moderate.

Task: Craft a ≤10-second message to confirm the correct location using phonetics and request a repeat-back.

MODEL TRANSMISSION — SCENARIO 3

Unit ID and “en route, 4 minutes.”

Address clarification using phonetics: “Schuyler — Sierra, Charlie, Hotel, Uniform, Yankee, Lima, Echo, Romeo.”

Contrast with the look-alike location (“Not Skyler Street.”).

Add landmark for redundancy (Riverside Park tennis courts).

Ask for repeat-back or confirmation and acknowledge when received.

Lesson Summary

- Clarity + brevity + ask: say only what matters in 10 seconds or less.
- Order matters: who you're calling → who you are → headline → criticals → clear ask → confirm/close.
- Routine reports: en route, on scene, patient update, transport — each with just the essentials.
- Plain English: avoid codes; spell tricky items with the phonetic alphabet; speak digits for addresses.
- Etiquette: think → key → speak (pause one beat), one idea per key-up, mic at 1–2 inches, end with unit ID.
- Safety and professionalism: if driving, hand off or park; never share PHI on open channels.

WORKBOOK — LESSON 3: COMMUNICATION

Complete all items. Write your radio transmissions exactly as you would speak them.

Section A — Knowledge Check

1. List the five parts of the standard radio-message structure in order.

2. Spell the street name HAWTHORNE using the phonetic alphabet.

3. Explain why you should speak digits one at a time when transmitting an address.

Section B — Transmission Drafting

4. You are Medic 6, en route to 2240 W. McNab Road for a reported cardiac arrest, BLS needed for CPR assistance. Draft a 10-second en-route transmission.

5. You arrive at a two-car MVC with one patient trapped and a power pole leaning over the vehicles. Draft your on-scene transmission including hazards and resource request.

6. You need the hospital to accept a 67-year-old male with chest pain, priority 2, 12 minutes out. Draft the hospital notification using plain English (no 10-codes).

Section C — Multiple Choice

- 7.** The purpose of the phonetic alphabet is to:
- A.** Keep transmissions short.
 - B.** Protect patient confidentiality.
 - C.** Eliminate ambiguity when spelling words.
 - D.** Replace street names with codes.
- 8.** When should the operator, not the partner, transmit from a moving ambulance?
- A.** Whenever the operator feels more comfortable.
 - B.** Only when the partner is unavailable AND the transmission is brief.
 - C.** Always — it's the operator's responsibility.
 - D.** Never, under any circumstances.

Section D — True / False

- 9.** You should transmit patient names on the primary dispatch channel so Dispatch can confirm the record.
- TRUE** **FALSE**
- 10.** One idea per key-up is a best practice for radio etiquette.
- TRUE** **FALSE**

Lesson 4

Ambulance Types and Operation

Lesson Goal

To provide participants with information related to the types of ambulances and the operation of each type.

Learning Objectives

- Explain what the Star of Life signifies and where it is appropriate to display it.
- Differentiate Type I, II, and III ambulances and explain how chassis and body choices affect payload, turning radius, and interior space.
- Interpret GVWR and payload; describe safe weight distribution and the signs of overloading.
- Apply vehicle dimensions — length, width, height — to turns, off-tracking, and tail-swing decisions.
- Adjust acceleration, following distance, and stopping based on weight and conditions.
- Use strategies to maximize visibility and safety — mirror setup, blind-spot checks, scene lighting, and backing with a spotter.

Star of Life

The Star of Life emblem may be displayed on the ambulance when the manufacturer certifies to the purchaser that the ambulance, its components, and its equipment meet or exceed the tests in the KKK specification.

The Star of Life is not a decorative symbol. It is a representation of six functions performed by EMS — detection, reporting, response, on-scene care, care in transit, and transfer to definitive care — and a visual promise to the public that the unit and the provider behind it meet a defined operational standard.

THINK ABOUT IT

- ▶ Why should the public care that your ambulance displays the Star of Life — what promise does it imply about equipment and operations?
- ▶ Where shouldn't the Star of Life appear, and why?

KKK-A-1822 Federal Specification

The KKK-A-1822 Federal Specification standards, published by the General Services Administration (GSA), recognize three types of ambulances: Type I, Type II, and Type III. The current specification (KKK-A-1822F/revised) sets minimum standards for design, construction, and equipment to ensure ambulances are safe and effective for patient transport.

Type I Ambulance

- **Type I (10,001 to 14,000 lb GVWR):** A cab-chassis furnished with a modular ambulance body.
- **Type I-AD (Additional Duty — 14,001 lb GVWR or more):** A cab-chassis with modular ambulance body, increased GVWR, and increased storage.

Type II Ambulance

- **Type II (9,201 to 10,000 lb GVWR):** A long-wheelbase van with an integral cab-body.

Type III Ambulance

- **Type III (10,001 to 14,000 lb GVWR):** A cutaway van with an integrated modular ambulance body.
- **Type III-AD (Additional Duty — 14,001 lb GVWR or more):** A cutaway van with integrated modular body and increased GVWR, storage, and payload.

THINK ABOUT IT

- ▶ You must choose a unit for tight alleys and parking garages — which type would you pick and why?

Weight

The physics of a heavier vehicle affect every driving decision:

- Heavier vehicles require more distance to stop — especially on wet or loose surfaces.
- Smooth, early braking beats late, hard braking. It keeps the patient and gear safe, and the rig under control.
- Leave extra following distance. Cover the brake approaching intersections.
- Acceleration is slower. Commit to merges only when you truly have the gap.

Weight Restriction

No matter what type of ambulance you drive, you must know your ambulance's weight restrictions in order to operate safely during all driving conditions.

The required minimum payload per vehicle without optional equipment shall be as follows:

- **Single rear-wheeled van ambulances (Type II):** 1,500 lb.
- **Dual rear-wheeled modular ambulances (Type I or III):** 1,750 lb.
- **Additional Duty modular ambulances (Type I-AD or III-AD):** 2,250 lb.

KNOW YOUR NUMBERS

- Know your GVWR (the maximum weight the vehicle can safely carry).
- Know your payload (what you can add — crew, patient, gear, fuel, liquids).
- Distribute weight to avoid overloading an axle. Store heavy items low and between the axles.
- Seasonal traps — extra blankets, water, traction aids, and added equipment quietly creep your payload up. Re-weigh after major changes.
- Telltales of overload: sluggish acceleration, longer stopping, rear sag, tires running hot.

Payload Calculation Form

Most agencies require a completed payload calculation form to be included in the vehicle's handbook of instructions. The form documents curb weight, driver weight allowance, passenger allowance, equipment weight, fluid weight, and the remaining payload. Deviations in dimensions are acceptable; all text on the standard form must be included.

THINK ABOUT IT

- ▶ You just added new equipment and a second oxygen cylinder. What steps would you take to confirm you're still within GVWR and payload?
- ▶ How could uneven loading change the way the rig behaves during braking?

Size

- **Off-tracking:** The rear wheels cut corners. Swing wider on turns; watch for curbs and pedestrians.
- **Tail swing:** The box can swing outward when the front pivots. Clear side hazards before turning.
- **Height awareness:** Note your posted vehicle height. Watch for garages, tree limbs, canopies, hospital bays, and overpasses.
- **Turning radius:** Plan turns earlier. Slow before the turn so you don't brake while off-balance.

Why it matters operationally: payload, turning radius, height clearance, and braking distance all change with ambulance type — so your driving decisions should change with them.

THINK ABOUT IT

- ▶ You're turning into a hospital bay with a low canopy. What three checks do you make before committing?
- ▶ Describe a time when tail swing or off-tracking could damage property or injure a bystander.

Visibility

- Blind spots are larger. Use mirrors, a camera if equipped, and a spotter when backing.
- At night or in rain or snow, reduce speed. Avoid out-driving your headlights and warning devices.
- Use scene lighting to make the vehicle visible without blinding other drivers. Angle lighting to create a protective shadow when safe.
- Maintain glazing (clean windows and mirrors) and keep light lenses clear. Dirty lenses reduce visibility.

THINK ABOUT IT

- ▶ Backing to a residence at night — what is your backing plan if your camera fails?
- ▶ Which lighting choices help other drivers see you without blinding them at a multi-vehicle scene?

Lesson Summary

- The Star of Life signals standards and professionalism — display it appropriately.
- Ambulance “type” drives operations: Type I = truck + box; Type II = van; Type III = cutaway + box. Choose for space, payload, and maneuverability.
- Know your numbers: GVWR and payload set the limits. Load low and centered; re-weigh after adding gear.
- Height and size matter: confirm posted height, take wider lines, manage tail swing and off-tracking.
- Physics in practice: heavier rigs stop slower. Brake early, add following distance, slow before curves.
- Be seen and see well: clean and adjust mirrors, use a spotter when backing, and light scenes without blinding traffic.

WORKBOOK — LESSON 4: AMBULANCE TYPES & OPERATION

Section A — Knowledge Check

1. Describe the main differences between Type I, Type II, and Type III ambulances.

2. Define GVWR and payload. Why does an operator need to know both numbers?

3. List three telltale signs of an overloaded ambulance.

Section B — Multiple Choice

4. A Type II ambulance is best described as:

- A. A cab-chassis with a separate modular body.
- B. A long-wheelbase van with an integral cab-body.
- C. A cutaway van with an integrated modular body.
- D. A heavy-duty truck with a custom body.

5. The minimum required payload for a Type II van ambulance, per the federal specification, is:
- A. 1,250 lb
 - B. 1,500 lb
 - C. 1,750 lb
 - D. 2,250 lb
6. Tail swing is best described as:
- A. The rear axle sliding in a slippery curve.
 - B. The rear of the box swinging outward when the front pivots in a turn.
 - C. The front wheels cutting the corner of a turn.
 - D. The box flexing on its mounts during braking.

Section C — Application

7. Your unit height is 10 ft 8 in. Ahead of you a posted clearance reads 10 ft 6 in. What do you do, and what do you transmit to Dispatch?

8. At scene arrival you realize you are boxed in with no egress route. List three things you will change next time to avoid this.

Lesson 5

Vehicle Inspections, Maintenance, and Repair

Lesson Goal

To provide participants with information related to the inspection, maintenance, and repair of emergency vehicles.

Learning Objectives

- Distinguish safe-to-operate versus out-of-service conditions and apply a go/no-go decision.
- Identify warning signs across major mechanical systems and know the immediate action for each.
- Perform and document a systematic inspection sequence (pre-shift, post-shift, weekly/PM).
- Explain the operator's legal and professional responsibilities, including how negligence can occur.
- Describe your role in preventive maintenance and how and when to escalate defects.
- State the limits of authorized repairs and the steps to take during malfunctions on a run.

Safe Operating Condition

A vehicle is safe to operate when all required systems function and no listed defect meets your agency's out-of-service (OOS) criteria. The standard is binary: the vehicle is either safe to operate or it is not. A partial defect that is “mostly working” is not safe to operate — it is a unit that has not yet been placed out of service.

THE GO / NO-GO DECISION

- Use a go/no-go checklist covering: brakes, steering, tires, lights and warning devices, sirens, restraint systems, oxygen, and stretcher locks.
- If the decision is “no-go,” secure the unit, tag it OOS, notify your supervisor and maintenance, and reassign the call.
- The decision rests with the operator. You cannot be ordered to operate a vehicle you have reasonable grounds to place out of service.

THINK ABOUT IT

- ▶ What is one defect you would consider an automatic “no-go”, and why?

Major Mechanical Systems

Each major system has characteristic warning signs. Learn them, respond to them early, and document what you observed.

- **Brakes:** pull or drift, soft pedal, warning light. Stop operations, place OOS, tow if needed.
- **Steering and suspension:** excessive play, clunks, bounce. Slow down, avoid high speeds and sharp turns, OOS.
- **Engine and cooling:** hot gauge, steam, burnt smell. Park safely, engine off, do not open a hot radiator cap, OOS.
- **Electrical and charging:** dimming lights, repeated resets. Reduce loads, report, OOS if warning devices become unreliable.
- **Tires and wheels:** low tread, sidewall bulge, hot hub. No movement, OOS, replace or inspect.
- **Patient-care systems:** cot locks, oxygen mounts, and seatbelts that are faulty. OOS until corrected.

THINK ABOUT IT

- ▶ Your brake warning light flickers during transport but goes out at idle. Do you continue, downgrade, or stop? How would you explain your reasoning?
- ▶ Which two senses — sight, sound, smell, or feel — most often alert you to a cooling system issue?

Inspections

By conducting regular, systematic vehicle inspections, you are able to:

- Find and report problems that need to be fixed.
- Keep track of preventive maintenance requirements.
- Document the overall condition of the vehicle.

Inspection Standards

Your inspection is governed by three overlapping standards:

- **Federal:** DOT and FMVSS requirements for commercial and emergency vehicles.
- **State:** State EMS rules and vehicle codes that define required equipment and inspection frequency.

- **Agency:** SOPs and SOGs that define the exact sequence, the OOS list, and the documentation format.

Inspection Types

- **Pre-shift:** A complete walk-around and cab/patient-compartment check performed before the unit is placed in service at the start of the shift.
- **Post-shift:** A short inspection at end of shift focused on restocking, cleaning, and identifying any new defects.
- **Weekly / PM:** A more thorough inspection on a fixed schedule that checks fluids, belts, hoses, and wear items.

THINK ABOUT IT

- ▶ If you only have 3 minutes before a late call, what must-check items do you hit to stay safe?

Pre-Shift Sequence

Perform the pre-shift inspection in the same order every time. A consistent sequence prevents missed items.

1. Exterior walk-around: body damage, leaks under the vehicle, tires (pressure and tread), wheels and lug nuts, mirrors, lights, warning devices, and compartment doors.
2. Cab: fluids check with engine off (oil, coolant, power steering, brake fluid, washer); engine start; gauges; horn; wipers and washer; defrost; HVAC; warning device self-test.
3. Patient compartment: oxygen level and securement, suction, cot and stair-chair function and locks, seatbelts, interior lights, climate control, radio and MDT.
4. Equipment inventory per agency list: airway, monitor/defibrillator, medications (as authorized), splinting, trauma and OB kits, PPE.
5. Documentation: complete the daily inspection form, note defects, and place OOS if warranted.

REMINDER

- Your inspection should follow your agency's SOP.
- Do not do more than you are authorized to do.

Operator Negligence

Failure to perform a required inspection — or operating a unit with a known defect — is a classic negligence fact pattern. The four elements of negligence from Lesson 2 (duty, breach, causation, damages) map directly onto inspection failures:

- **Duty:** The operator has a duty to inspect the unit before the shift and to place out-of-service units that meet OOS criteria.
- **Breach:** Skipping the inspection or operating despite a known defect.
- **Causation:** The defect causes or contributes to a crash, injury, or delayed response.
- **Damages:** Injury to a patient, bystander, crew member, or damage to property.

THINK ABOUT IT

- ▶ Which documentation habit would most strongly defend your decision to place a unit out of service?

Preventive Maintenance

- Track mileage and engine hours. Schedule by interval (for example, A/B services).
- Report trending issues early (slow cranking, uneven tire wear patterns, small leaks).
- After preventive maintenance is complete, perform a post-maintenance check before returning the unit to service.

Operator Responsibility

The operator is the first line of defense for vehicle readiness. Shop mechanics cannot catch what they never see. Your job is to:

- Inspect the vehicle thoroughly at the times required by SOP.
- Document what you find in writing.
- Escalate defects promptly to maintenance and your supervisor.
- Follow up to confirm defects were corrected before returning the unit to service.

THINK ABOUT IT

- ▶ What's a small symptom that could later become a big repair? How could early reporting change the outcome?

Making Repairs

You should only perform repairs for which you are trained and authorized by your agency. Common authorized items include: replacing lamp bulbs, topping off approved fluids (washer fluid, and in some agencies, coolant or oil within limits), and replacing items on the equipment inventory. Beyond that, escalate.

Malfunctions During a Run

When a unit malfunctions mid-run, the operator's priorities are, in order:

1. Slow and stop safely. Do not create a worse problem by trying to finish the run.
2. Secure the patient and crew. Activate hazard lights and scene lighting as appropriate.
3. Notify Dispatch. State location, nature of malfunction, and resource request.
4. Transfer the patient to a responding unit per SOP.
5. Remain with the unit until relieved by maintenance or a supervisor.
6. Document everything — time, location, symptoms, actions, and personnel involved.

THINK ABOUT IT

- ▶ You smell electrical burning and lose siren function during a priority response. What are your first three actions?

Lesson Summary

- Safety first: use the go/no-go mindset and your OOS list.
- Systematic inspections catch problems early — document everything.
- Know your limits: escalate defects; perform only authorized tasks.
- During malfunctions, slow or stop, notify, and transfer if needed. Patient and crew safety outrank speed.

WORKBOOK — LESSON 5: INSPECTIONS & MAINTENANCE

Section A — Knowledge Check

1. List five items you check during a pre-shift exterior walk-around.

2. Describe the go/no-go decision and who has the final authority to make it.

3. List two warning signs for each of the following systems: brakes, cooling, tires.

Section B — Multiple Choice

4. A unit placed out of service should be:
 - A. Driven slowly back to quarters for later evaluation.
 - B. Used only for non-emergency transfers until repaired.
 - C. Secured, tagged OOS, and reported to supervisor and maintenance.
 - D. Parked in the bay and left for the next shift to handle.
5. The most defensible documentation of an OOS decision includes:

- A. A verbal report to the shift supervisor only.
- B. A brief note on the run report.
- C. A written defect report with the specific symptom, time, and location.
- D. A text message to the maintenance shop.

Section C — True / False

6. If a supervisor directs you to operate a vehicle you believe is unsafe, you are protected from any liability that results.

- TRUE FALSE

7. Post-maintenance checks are required before returning a vehicle to service.

- TRUE FALSE

Section D — Scenario

8. During a transport you notice the brake pedal getting soft and drifting lower. The patient is stable. Describe your actions in order.

Lesson 6

Navigation and Route Planning

Lesson Goal

To provide participants with information to prepare them for navigation and route planning.

Learning Objectives

- Prioritize safety and due regard on every response, balancing time versus risk.
- Select a primary route and two alternates using traffic, weather, events, and local hazards.
- Apply vehicle limits (height, weight, length) when evaluating bridges, canopies, garages, and tight turns.
- Determine how to use GPS and MDT effectively: verify the destination, cross-streets, and landmarks; avoid distraction.
- Communicate routing changes to Dispatch clearly (who, where, what, why) and document your rationale.

Safety

Safety is the most important factor when driving to the scene. A minute saved does not compensate for a crash; a crash creates a second emergency and often a worse one. Safety is built before the wheels roll, maintained while driving, and sharpened on approach.

Before Wheels Roll

- Confirm the address with phonetics.
- Preview the route and alternates.
- Review unit height and GVWR.
- Secure crew, patient, and gear.

While Driving

- Eyes up. Scan in this order: forward horizon, mirrors, instruments.
- Avoid device manipulation unless parked or by the partner.
- Obey one-way and turn restrictions even in emergency mode unless policy or law explicitly allows.

Approach / Arrival

- Slow early. Expect pedestrians near the incident.

- Position for egress — do not box yourself in.
- Never block hydrants.

Route Planning Involves Learning

Route planning is not a one-time map exercise. It is an ongoing professional habit. An effective operator knows:

- The primary arterials, collectors, and shortcuts in the response area.
- The location of every hospital and specialty receiving facility — and the best approach to each.
- Common time-of-day and day-of-week traffic patterns (school dismissals, rush hours, event venues).
- Low-bridge, low-canopy, and narrow-bridge restrictions relevant to the unit's height and weight.
- Weather-seasonal trouble spots (low-lying flood zones, ice-prone bridges, construction corridors).

Route Planning Considerations

- Traffic — current and predicted.
- Weather — rain, ice, fog, wind.
- Road surface — pavement condition, gravel, construction.
- Events — parades, sports, festivals, school dismissal.
- Vehicle limits — height, weight, length.
- Time of day — rush hours, school zones.
- Special hazards — rail crossings, drawbridges, tunnels.

Additional Considerations — Local Conditions

Be aware of the conditions of local roads and streets. Conditions that matter to the operator include pavement condition, lane width, shoulder availability, sight lines at intersections, lighting at night, and pedestrian volume. These vary by neighborhood, time of day, and season.

THINK ABOUT IT

- ▶ Event detour: a street festival closes your primary route. What cues (before you see barricades) would have tipped you off?
- ▶ Rural washout: heavy rain made your gravel alternate risky. What surface or grade clues tell you to divert again?

Route Planning

THINK ABOUT IT

- ▶ Address check: what two pieces of information would have caught a wrong-street or wrong-suffix error before rolling?
- ▶ One-way downtown: GPS says turn left into a one-way against you for one block near the scene. What's your safer alternate?
- ▶ School dismissal: it's 3:10 pm near two schools. Which route characteristic matters most, and why?

Route Planning Method — PREP

Use a reusable method for every call. The PREP model forces you to think about each key consideration before committing to a route:

- **P — Preview:** map and traffic.
- **R — Risks:** low bridges, rails, school zones.
- **E — Evaluate Alternates:** at least two (A and B).
- **P — Position:** safe approach side and exit path.

Inputs to Check

- CAD notes.
- Live traffic.
- Weather.
- Time-of-day choke points.
- Road work.
- Special events.
- Seasonal closures.

Tools and Tactics

- Download offline maps.
- Save hospitals and frequent-flyer destinations as favorites.
- Learn safe U-turn points and median breaks.
- Practice the “last 500 feet” approach for each hospital bay.

Height Restrictions — A Common Trap

- Know and post your true vehicle height, including light bars and roof-mounted AC units.
- Keep a 6 to 12 inch safety buffer.
- If you are uncertain, do not commit.

Typical hazards: rail underpasses, parking garages, hospital canopies, tree limbs, utility lines, older downtown bridges.

If a low clearance blocks the plan: stop clear of the obstruction, notify Dispatch, select Alternate A or B, and document the change.

THINK ABOUT IT

- ▶ Low bridge dilemma: a bridge is posted 10'8"; your unit is 10'10". What do you do, and what do you radio?
- ▶ Hospital approach: which entrance gives the best egress if you must leave quickly, and how do you line up for it?

Route Planning Tips

- Brief your partner on the primary route and both alternates before rolling.
- Read cross-streets aloud when confirming the destination — this catches typos in the CAD entry.
- Use the MDT or GPS to confirm, not to drive. The operator's eyes belong on the road.
- If traffic suddenly changes and you need to deviate, notify Dispatch — do not assume they know.

Lesson Summary

- Safety > speed: choose the safest workable route, not the shortest.
- Always have Alternate A and B ready; brief your partner on both.
- Respect vehicle limits — if the posted height is lower than your unit height, you do not go.
- Nail the final approach: protect egress, avoid hydrants, expect pedestrians.
- Keep Dispatch in the loop with clear, concise updates and document why you changed course.

WORKBOOK — LESSON 6: NAVIGATION & ROUTE PLANNING

Section A — Knowledge Check

1. Explain each letter of the PREP route-planning model.

2. List three items on your pre-roll route briefing for your partner.

3. Describe why a 6 to 12 inch height buffer is the minimum, and give one example of a roof-mounted item that changes your true height.

Section B — Scenario

4. You are dispatched to a residential address for a possible stroke, 8 minutes out. A parade has closed your primary east-west arterial. Describe your decision-making from CAD receipt to arrival — include route, alternates, and any radio traffic with Dispatch.

Section C — Multiple Choice

5. The primary goal of route planning is:
- A. To minimize time to the scene at all costs.
 - B. To choose the safest workable route, not the shortest.
 - C. To show Dispatch that you know the area.
 - D. To avoid paying for tolls on the way to the call.
6. If the posted clearance is lower than your unit height, you should:
- A. Proceed slowly and watch your mirrors.
 - B. Have the partner guide you through.
 - C. Stop before the obstruction, notify Dispatch, and take an alternate.
 - D. Remove roof-mounted equipment and try again.

Lesson 7

Basic Maneuvers and Normal Operating Situations

Lesson Goal

To provide participants with information related to how to perform basic maneuvers and handle normal operating situations.

Learning Objectives

- Apply the 2-4-12 rule to maintain safe following distance and forward scan.
- Calculate total stopping distance (reaction + braking) and adjust for surface, speed, and load.
- Select safe techniques for lane changes, passing, backing, parking, and turning in urban and rural settings.
- Describe the importance of anticipating how road surfaces and conditions affect handling and patient comfort; mitigate pain, fright, and anxiety.
- Explain defensive driving strategies: safety cushion, communication with other drivers, and coordination when multiple units respond.
- Describe what to do if a crash becomes unavoidable.

Road Surfaces

The road surface is the interface between the vehicle and every force acting on it. Smooth, dry pavement is the rare ideal. Most of your driving is done on surfaces that deviate from the ideal in ways that change handling, braking, and patient comfort.

Road Conditions — Effect on Handling and Patients

- **Bumps, bridges, and ramps:** lighten steering input; coast smoothly onto and over transitions to avoid the bounce that can worsen patient pain.
- **Mud and standing water:** gentle throttle; avoid sudden braking or steering; check for traction loss with micro-inputs.
- **Potholes:** slow early; straddle when safe; avoid braking in the hole — it unloads the suspension and worsens the impact.
- **Curves, crowns, and drainage:** slow before entry; hold steady throttle through the curve; crowns shed water — expect pull toward the low side.
- **Patient impact:** narrate your actions (“slowing for potholes”), pad and secure equipment, steer smoothly — these reduce pain, fright, and anxiety.

Driving Skills

Practicing the following skills will enhance your patient's ride and protect your crew:

- Smooth starts and stops.
- Smooth steering inputs.
- Eye-lead time.
- Following distance.
- Lane discipline.
- Backing with a ground guide.

The 2-4-12 Rule

2-4-12 RULE

- 2 seconds minimum following distance in ideal, low-risk conditions.
- 4 seconds in rain, darkness, with heavy vehicles, or in complex traffic.
- 12 seconds eye-lead time — scan where you will be in about 12 seconds and plan lane position and escape routes.

Braking Time

DEFINITION — TOTAL STOPPING DISTANCE

Reaction Time + Braking Time.

Reaction time is the time between when you perceive a hazard and when you begin to brake.

Braking time is the time from initial brake application to complete stop.

- Reaction time grows with fatigue and distraction.
- Braking distance grows with speed, weight, and surface.

THINK ABOUT IT

- ▶ You're at 40 mph on wet pavement. Which part of stopping distance changed the most — reaction or braking — and how will you compensate?

Acceleration

- Roll on the throttle progressively; avoid abrupt inputs that unload the cot and gear.
- Maintain a safety cushion on all sides; favor lateral spacing over speed when you cannot increase following distance.
- Avoid pacing packs of vehicles — either pass cleanly when it is legal and safe, or tuck in with space.

Defensive Driving

DEFINITION — DEFENSIVE DRIVING

Doing everything reasonably possible to avoid being involved in a preventable crash, regardless of what the law is, what the other driver does, or adverse driving conditions.

Safety Cushion

Empty space around the vehicle allows for:

- Reaction time when another driver makes a sudden move.
- Evasive options — you cannot steer around a threat if both lanes are occupied.
- Visibility — space lets you see farther past the vehicles around you.
- Communication — distance gives other drivers time to see your signals and warning devices.

Multiple Responding Units

- Stagger, do not cluster. Multiple warning devices blend together and confuse other drivers.
- Communicate on the radio before converging at an intersection.
- The second-arriving unit adjusts speed and routing to avoid arriving at the same intersection simultaneously with the first unit.
- Assume other drivers will hear and see only one warning device at a time.

Communicating with Other Drivers

Communicate early: signal well before the maneuver, position hints (lane choice), use the headlight flash and horn only when necessary. Do not rely on other drivers yielding just because your warning devices are active.

Crash Preparation

If a crash is inevitable, there are a few steps you can take to reduce injury:

1. Reduce speed — kinetic energy scales with the square of velocity.
2. Steer toward a glancing-blow angle rather than a head-on impact.
3. Aim for something that deforms (bushes, snow banks) rather than something rigid (trees, poles, walls).
4. Brace yourself and announce “brace for impact” to the crew and patient.
5. After impact: assess injuries, secure the scene, notify Dispatch.

Basic Driving Maneuvers

Braking and Stopping Tips

- Pump the brakes gently but firmly on older non-ABS systems; on ABS-equipped units, apply firm and steady pressure.
- Check conditions to the rear and sides before braking hard.
- Search 12 seconds ahead so you can brake early, not late.

Making Lane Changes Tips

- Plan ahead.
- Signal intentions and look for reactions.
- Gently steer into the new lane.

Passing — Two-Lane Roads Tips

- Visually clear the oncoming lane.
- Change lanes.
- Accelerate past the vehicle.
- Smoothly pull back into the lane.

Pass Stopped Traffic Tips

- Pass only after you know why traffic has stopped — never assume.

Backing Tips

- Use a ground guide at the left rear.
- Keep the guide in view at all times.
- Use side mirrors.
- Accelerate slowly.

Urban Driving Tips

Be aware that in urban driving you are typically:

- Surrounded by traffic.
- Constantly changing speeds.
- Dealing with traffic entering and exiting.

Be at your peak alertness to safely drive in heavy urban traffic. Ensure your partner assists with looking for potential threats.

Rural Driving

- Be alert for loose livestock and pets.
- Be alert for bicyclists, school buses, and children waiting for buses.
- Be alert for slow-moving vehicles such as tractors, farm equipment, trucks, and horses and buggies.

THINK ABOUT IT

- ▶ Which maneuver do you think would be your weakest under stress? What one step will you change next shift?

Lesson Summary

- Smooth inputs + 2-4-12 keep you, your crew, and patients safe.
- Stopping distance grows fast with speed, weight, and poor surfaces — drive for the patient, not the clock.
- Choose space over speed: maintain a safety cushion, communicate early, and never assume right-of-way.
- Execute fundamentals — brake before turns, plan lane changes, pass only when fully clear, back with a guide.
- If a crash is unavoidable, reduce speed, angle away from rigid objects, and minimize harm.

WORKBOOK — LESSON 7: BASIC MANEUVERS

Section A — Knowledge Check

1. State the 2-4-12 rule and give an example of when each number applies.

2. Write the total stopping distance formula and describe what increases each component.

3. List four elements of a safe lane change.

4. Describe three differences between safe urban and rural driving.

Section B — Multiple Choice

5. When backing the ambulance, the ground guide should be positioned:
- A. At the right rear corner.
 - B. At the left rear corner.
 - C. Directly behind the vehicle.
 - D. Wherever they are comfortable standing.
6. On wet pavement at 40 mph, the component of stopping distance that changes most is:
- A. Reaction time.
 - B. Braking distance.
 - C. Perception time.
 - D. Total weight of the vehicle.

Section C — True / False

7. Activated warning devices guarantee that other drivers will yield to your ambulance.
- TRUE FALSE
8. Narrating your actions (“slowing for a pothole”) helps reduce patient anxiety.
- TRUE FALSE

Section D — Scenario

9. A crash is unavoidable. In one or two sentences for each, describe the three choices you would make to reduce harm.

Lesson 8

Operations in Emergency Mode

Lesson Goal

To provide participants with information related to operating vehicles in emergency mode.

Learning Objectives

- Explain when and why to use emergency lights and siren (L/S) and how they relate to due regard and agency SOPs.
- Apply the National Voluntary Consensus process to clear intersections safely and consistently.
- Adjust speed and vehicle control for traction (rain, snow, ice, winds, leaves) and vision limits (night, rain/fog, vehicle).
- Manage physiologic stress (adrenaline, tension) to reduce driver error.
- Make conservative decisions when driving against traffic or on one-way streets and document rationale.
- Execute immediate, safe actions for common malfunctions (tire, brake, steering, accelerator, hood) and coordinate with Dispatch.

Emergency Driving

DEFINITION — EMERGENCY DRIVING

The use of clearly defined procedures in the operation of an ambulance when responding to a medical emergency, including the use of emergency signaling devices, such as lights and siren.

Emergency Lights and Siren

- **Purpose:** to notify others and request that they yield — not a right to proceed. Due regard always applies.
- **Use:** per state law and SOP. Choose the speed that provides the best ride and patient care, not the highest speed.
- **Downgrade:** when updates reduce acuity, or when conditions make L/S unsafe.

THINK ABOUT IT

- ▶ In what situations would you NOT use L/S even on a “hot” call?

Physiological Response

Sprinting to the rig, sirens, and urgency spike adrenaline, which produces tension, which produces errors. The operator's job is to manage that physiology:

- Take three slow breaths before shifting into drive.
- Give a short pre-departure brief — route, hazards, roles.
- Call out checks aloud — “buckled, cot locked, oxygen secured.”

Speed Limits

Follow state laws and SOP guidance for speed limits. Operate at speeds that provide the best ride, the best response, and the best patient care. The fastest legal speed is rarely the right one.

Law of Due Regard

DEFINITION — DUE REGARD

A reasonably careful person performing similar duties and under similar circumstances would act in the same manner.

In emergency mode, due regard is applied continuously — every intersection, every lane change, every speed decision. See Lesson 2 for the complete legal framework.

Intersections

WHY INTERSECTIONS MATTER

- Approximately 60% of ambulance crashes occur at intersections with stop signs and traffic lights.
- Treat every intersection as the highest-risk point of your response.
- The National Voluntary Consensus Standard exists to standardize how emergency vehicles clear intersections.

National Voluntary Consensus — Clearing a Controlled Intersection

1. 300 feet out: siren to wail.
2. 150 feet out: switch to yelp.
3. At the crosswalk line: brake to a stop.
4. Two blasts of the air horn.
5. Stop, look left-front-right-left, make eye contact with all drivers.
6. When all clear, proceed under 10 mph.
7. Continue yelp through the intersection.
8. Clear each lane one at a time — never assume the far lane is yielding because the near lane stopped.

Intersection Cautions

- Watch for drivers who do not hear warning devices (hearing loss, loud music, closed windows, hearing-impaired).
- Do not enter an intersection already controlled by another emergency vehicle.
- Avoid passing stopped vehicles on the right.
- Anticipate oncoming left turns and hidden hazards (screened pedestrians, cyclists).
- Anticipate multiple responding units.

Driving Against Traffic

- Do not enter the opposing traffic lane until all oncoming vehicles are aware of the ambulance's presence.
- Do not enter a one-way street against traffic until all opposing traffic has yielded the right of way.

THINK ABOUT IT

- ▶ What visual cue tells you every driver ahead has actually yielded?

Adverse Conditions

You must learn to adjust your driving style to existing conditions. Two categories of adverse conditions the operator adjusts for are traction and vision.

Adverse Conditions — Traction

Conditions that affect traction include rain, snow and ice, high winds, and leaves.

Rain

Rain affects traction in three ways:

- **Hydroplaning:** as little as 1/16 inch of water on the road surface can cause hydroplaning.
- **Brakes:** brakes can become wet and less effective.
- **Standing water:** when only one side of the vehicle goes through the water, the vehicle tends to pull in that direction.

Operator actions in rain:

- Slow down before hitting water. This lessens splashing and reduces the effects of hydroplaning, giving you more control.
- Gently apply the brakes for a few moments as you exit deeper puddles to heat the brake shoes and dry them. Until the brakes are dry, you will notice it takes more foot pressure to stop the ambulance.

Snow and Ice

Snow and ice form an extremely slick barrier between your tires and the roadway. Extreme caution must be taken when driving on snow and ice to avoid sliding when turning, braking, and accelerating.

Remember: in cold weather, bridges and shaded roadways freeze first. Often this freezing is nearly invisible, and all bridges and shaded areas must be approached with caution.

High Winds

Cross-winds can blow the vehicle off the road or across the center line, particularly in curves and corners — and especially when it is raining, snowing, or icy and traction with the road is already reduced.

Wind shifts occur as you pass buildings, travel through underpasses, or pass large trucks. These shifts toss the ambulance first one way and then another. Reduced speed will lessen the effects of these wind shifts.

Leaves

Wet leaves on the roadway can become as slick as ice or snow. If you cannot avoid driving through areas of wet leaves, slow down and treat them as you would a large patch of ice.

Adverse Conditions — Vision

Conditions that affect vision are night driving, rain and fog, and characteristics of the vehicle itself.

Night Driving

Night driving places heavy demands on your eyes. Techniques and tips:

- Do not move immediately from a brightly-lit room to a dark vehicle and begin driving. Give your eyes a chance to adjust.
- Avoid looking directly into the glaring headlights of oncoming vehicles.
- The human eye takes about seven seconds to fully recover from being blinded by a bright light. At 60 mph, your ambulance would travel 616 feet in seven seconds.
- Use high beams where appropriate, but switch to low beams early when other traffic is approaching.
- Keep the windshield, mirrors, and headlights clean.

Rain and Fog

Rain and fog affect visibility in two ways: reduced visibility and glare. Slow down, increase following distance, and use low beams in fog (high beams reflect back off the water droplets).

The Vehicle

Parts of the vehicle that affect your visibility include the windshield wipers, visors, headlights, and side-view mirrors. A worn wiper blade, a misadjusted mirror, or a cloudy headlight lens degrades your vision long before you notice it consciously. Check each as part of every inspection.

Crash Avoidance

Plan ahead to avoid a crash. The best crash technique is the one you never use — because you saw the threat 12 seconds earlier and adjusted.

Vehicle Malfunctions — First Actions

- **Tire blowout:** steer straight, ease off the throttle, gentle braking to a safe stop. Place OOS and request help.
- **Brake failure:** downshift, use the parking brake progressively if trained. Safe stop and secure. OOS.
- **Steering failure:** slow straight. Avoid sharp inputs. Stop safely. OOS.
- **Stuck accelerator:** shift to neutral. Controlled braking to a stop. Ignition off only once safely stopped.
- **Hood released:** slow and pull to the shoulder. Do not try to peek under the partially open hood.

In every malfunction: set triangles or cones, notify Dispatch, arrange patient transfer if needed, and document.

THINK ABOUT IT

- ▶ Which malfunction worries you most? What would be your first three actions?

Lesson Summary

- Due regard governs everything. L/S requests help from other drivers — it does not grant right-of-way.
- Treat intersections as the highest risk. Follow the wail → yelp → stop → clear sequence every time.
- Adjust for traction and vision limits before you meet the hazard. Slow early, see farther.
- Avoid driving against traffic unless every driver has yielded. Reroute when in doubt.
- In malfunctions: slow or stop, secure, notify, transfer, and document.

WORKBOOK — LESSON 8: EMERGENCY MODE

Section A — Knowledge Check

1. Describe the purpose of lights and siren and explain why they do not grant right-of-way.

2. Write out the eight-step National Voluntary Consensus sequence for clearing a controlled intersection.

3. List the three ways that rain affects traction.

4. Explain why bridges and shaded roadways freeze first.

Section B — Multiple Choice

5. Approximately what percentage of ambulance crashes occur at intersections?
- A. 20%
 - B. 40%
 - C. 60%
 - D. 80%
6. The recommended siren pattern at 300 feet from an intersection is:
- A. Yelp.
 - B. Wail.
 - C. Hi-lo.
 - D. Silent.
7. For a stuck accelerator, the operator's first correct action is to:
- A. Shut off the ignition.
 - B. Shift to neutral and brake in a controlled manner.
 - C. Apply the parking brake fully.
 - D. Swerve toward a soft shoulder.

Section C — True / False

8. The human eye recovers from bright-light blindness in about 7 seconds.
- TRUE FALSE
9. High beams are the correct choice in thick fog.
- TRUE FALSE
10. Brakes can lose effectiveness after driving through standing water.
- TRUE FALSE

Section D — Scenario

11. You experience a tire blowout at 50 mph on the interstate with a patient in the back. Describe your immediate actions in order.

Lesson 9

Special Considerations

Lesson Goal

To provide participants with information related to how to respond to special considerations.

Learning Objectives

- Identify who is in charge of the vehicle and crew and describe their safety responsibilities from dispatch to demobilization.
- Anticipate scene hazards (fire, HazMat, crowds, violent acts, traffic, downed power lines) and choose a conservative initial posture.
- Select safe vehicle placement that preserves traffic flow, crew and patient safety, and a clean egress, while following the Incident Commander.
- Deploy warning devices (cones, triangles, flares) appropriately and know when NOT to use flares.
- Communicate clearly with Dispatch and the Incident Commander, and coordinate with law enforcement, fire, and utility partners.
- Support families and bystanders professionally (location, safety, updates, assistance) without compromising operations.

Emergency Vehicle Operator / Captain

Every emergency vehicle should have a designated person in charge. That person is responsible for the safety of:

- Passengers.
- Crew.
- Vehicle.

Fire apparatus will typically have an officer in the right seat who is in charge. On an ambulance, the person in charge is usually defined by agency SOP. Every vehicle should have a person in charge — there should be no ambiguity at scene arrival.

Responsibility for Families

Families and bystanders at the scene have four basic needs the operator can meet while the crew works on the patient:

- **Location:** “Where should you wait?”
- **Safety:** “Please stay behind the unit / inside the lobby.”

- **Communications:** Who will update them, and when?
- **Appropriate assistance:** a ride, a phone call, or help reaching another family member.

Keep families out of traffic and hazard zones. Do not block treatment paths or exits.

THINK ABOUT IT

- ▶ What single instruction best keeps family members safe without isolating them?

Potential Dangers for Emergency Personnel

- Fires.
- HazMat.
- Crowds.
- Violent acts.
- Traffic.
- Downed power lines.

Fire

- Stage upwind and uphill of the fire when possible.
- Maintain a safe distance — heat and smoke travel.
- Do not enter the structure; the operator is not the incident commander.
- Be prepared to move the unit quickly if the fire spreads.

HazMat

- Stage upwind, uphill, and upstream of any HazMat incident.
- Identify the hazard from a distance using placards, shipping papers, and the ERG (Emergency Response Guidebook).
- Do not enter the hot zone unless trained, equipped, and authorized.
- Follow the Incident Commander and HazMat sector officer's direction.

Crowds

- Park to avoid being boxed in; maintain a clear egress lane.
- Request PD for crowd control.
- Keep interactions brief and calm.
- Designate a safe waiting area for families away from the work area.

Violent Acts

- Stage away from the scene until it is declared safe by law enforcement.
- Do not self-dispatch into an active-violence scene.

- If a scene becomes violent after arrival, retreat to the unit, lock the doors, and move to a safe distance.
- Do not engage with combative subjects — that is law enforcement's role.

Traffic

- Use the unit as a barrier to create a protected work zone (“shadow”).
- Wear high-visibility PPE when operating on or near the roadway.
- Place cones or triangles upstream to give approaching drivers warning.
- Coordinate with law enforcement or DOT for extended lane closures.

Downed Power Lines

- Treat all downed lines as energized until a utility representative clears them.
- Establish a large exclusion zone.
- If a vehicle may be energized by a contacted line, occupants should stay inside the vehicle until utility clears the scene.
- Do not place flares near downed lines.

Vehicle Placement

- **Goals:** safety, traffic flow, ease of departure, and appropriate distance from the scene and patient.
- **Protective shadow:** create one for the work area when operating in or near traffic. Angle the unit slightly with wheels turned away from the work zone.
- **Clean egress:** leave a clear exit for rapid transport and incoming apparatus. Never block hydrants or access routes.
- **Incident Commander:** on arrival, if placement is uncertain, stage and await the Incident Commander's direction.

THINK ABOUT IT

- ▶ Where would you park on a narrow street with crowds forming — and why?

Temporary Traffic Control — Flares

Flares provide high-visibility warning for approaching traffic, particularly at night or in reduced-visibility conditions. They are a last resort, not a first choice.

Flare Parts

- Cap.
- Cover.

- Striker.
- Igniter.

Flare Use Rules

- Use only when the scene is clear of spill, leak, or fire risk and when visibility is poor.
- Never throw a flare.
- Never place a flare near dry brush, leaves, or combustible liquids.
- Know the parts (cap, cover, striker, igniter) and the safe lighting technique.
- Retrieve and fully extinguish flares before leaving the scene.

Warning Triangles

Warning triangles give approaching drivers early notice and a clear taper into the open lane. They are the preferred default in most agencies — no flame, no residue, reusable.

- Increase spacing as speed increases.
- Increase spacing as visibility decreases.
- Place triangles well upstream of the scene — farther than most operators instinctively place them.

Lesson Summary

- The vehicle and crew lead owns safety decisions from approach to exit.
- Choose conservative positions for fire, HazMat, crowds, violence, traffic, and power lines. Stage if unsure.
- Vehicle placement must protect people, maintain access for fire and PD, and keep a clear egress.
- Use triangles and cones widely. Avoid flares around leaks, brush, or HazMat.
- Communicate early with Dispatch and the IC. Your updates drive resource requests and safe scene management.
- Coordinate EVOC procedures with your SOP. Personnel should not have to guess at the action to take in any situation.

WORKBOOK — LESSON 9: SPECIAL CONSIDERATIONS

Section A — Knowledge Check

1. List the six categories of potential dangers for emergency personnel covered in this lesson.

2. Describe the correct staging posture for a HazMat incident and explain why.

3. Describe the goals of vehicle placement in four words or phrases.

4. List four rules for safe flare use and one situation in which flares should never be used.

Section B — Multiple Choice

5. At a scene with downed power lines and a vehicle that may be energized, occupants should:

A. Exit the vehicle immediately.

- B. Stay inside until utility clears the scene.
- C. Jump clear, avoiding both the vehicle and the ground at the same time, and walk away.
- D. Both B and C may be correct depending on fire risk.

6. The first person authorized to place the ambulance at a multi-agency scene is:

- A. The first-arriving police officer.
- B. The ambulance operator.
- C. The Incident Commander.
- D. The senior paramedic on scene.

Section C — True / False

7. Flares are the preferred default traffic-warning device for most scenes.

- TRUE
- FALSE

8. Families should be given a specific waiting area and a designated person to update them.

- TRUE
- FALSE

Section D — Scenario

9. You arrive at a single-vehicle crash at night on a rural two-lane road. A power line is down across the hood of the vehicle; one occupant is alert inside. Describe your initial actions, radio traffic, and vehicle placement.

Lesson 10

The Run

Lesson Goal

To provide participants with the information needed to complete a successful run.

Learning Objectives

- Maintain operator readiness (fatigue, focus, hydration, stress control) and brief the crew before wheels roll.
- Execute a predeparture routine that confirms destination, route and alternate, communications, and restraint and securement.
- Perform a quick but systematic vehicle inspection and make go/no-go decisions with documentation.
- Approach intersections using a consistent, stepwise method that emphasizes due regard and clear communication.
- Apply the wail → yelp → stop → clear → ≤10 mph → yelp-through sequence when clearing controlled intersections.
- Manage difficult scenes (downed power lines, crowds) conservatively and coordinate with Dispatch and the IC.
- Park to protect people and preserve egress, and complete a post-run reset (vehicle, crew, and documentation).

Operator Readiness

Readiness is the foundation of a safe run. An unprepared operator is a risk to every other element of the system.

- **Fit for duty:** target 6–8 hours of sleep. Caffeine does not equal readiness. Hydrate. Quick stretch before driving.
- **Mindset cue:** 3 calm breaths. Say the route and role out loud. Seatbelts for all. Secure loose gear.
- **Crew brief (30–45 seconds):** destination, primary and alternate route, roadway hazards, and roles (driver, patient contact, scene watch).

THINK ABOUT IT

- ▶ What single habit can you use to reset your mindset before you shift into drive?

Predeparture

- Confirm address with phonetics, cross-streets, and best approach. Check GPS or MDT — but avoid eyes-off-road while rolling.
- Select response mode (and be ready to downgrade).
- Radios: correct channel, volume check, unit ID cadence (you call them, they call you).
- Restraint check: crew buckled, patient cot and equipment locked.

Inspecting Vehicles

- 360° walk-around: leaks, tire condition and pressure, mirrors, lights and warning devices, doors and compartments.
- Cab and patient area: horn, wipers, defog, gauges, radios and MDT, suction, oxygen levels and securement, stretcher and cot locks.
- Go/No-Go: any defect that compromises steering, braking, tires, lighting, or securement equals OOS. Notify and document.

THINK ABOUT IT

- ▶ What is one defect that is an automatic no-go for you? Why?

Intersections — The Highest-Risk Environment

- Slow early. Cover the brake.
- Increase eye-lead time. Expect late yielders and left-turn conflicts.
- Clear each lane one at a time — never assume the far lane is yielding just because the near lane stopped.
- Avoid passing on the right.
- Watch for screened pedestrians and cyclists.

Clearing a Controlled Intersection

1. Siren to wail 300 feet before.
2. Yelp 150 feet before.
3. Remove foot from accelerator.
4. Start braking.
5. Two blasts of air horn.
6. Look left, front, right, and left.
7. Make eye contact with all drivers.
8. When all clear, proceed under 10 mph.

9. Continue yelp through the intersection.

Cautions

- Watch for drivers who do not hear warnings.
- Do not enter an intersection controlled by another emergency vehicle.
- Avoid passing on the right.
- Beware of other intersection hazards.

Difficult Situations

Downed Power Lines

- Treat all downed lines as energized.
- Set a large exclusion zone.
- Request utility immediately.
- If a vehicle may be energized, occupants stay inside until cleared by utility.
- Do not place flares.

THINK ABOUT IT

- ▶ What would be your radio wording to establish and hold the perimeter until the utility arrives?

Crowds

- Park to avoid being boxed in; maintain a clear egress lane.
- Request PD for crowd control.
- Keep interactions brief and calm.
- Designate a safe waiting area for families.

Parking Safety

- Park to protect the work area (the “shadow”). Turn wheels away from the scene. Wear high-visibility PPE on the roadway.
- Do not block hydrants or fire access.
- Set cones or triangles to guide traffic.
- Keep your exit path clear.

Patient Comfort — Reducing Fright

- Use smooth inputs on brake, steering, and throttle.

- Narrate your actions (“slowing for a pothole”) to reduce pain, fright, and anxiety.
- Limit siren use near hospitals and residential areas when safe.
- Close doors and windows to reduce noise in the patient area.

THINK ABOUT IT

- ▶ What steps can you take to make a scared patient feel more safe and secure?

Post Run

- **Reset:** fuel if needed, restock and clean, fix or report defects, secure gear.
- **Debrief:** quick crew discussion — what went well, what to change, and note any near-misses.
- **Document:** times, decisions (for example, downgrades), malfunctions, and scene hazards.

Lesson Summary

- Readiness + a 30-second crew brief set the tone for safe operations.
- Predeparture confirms destination, route and alternates, comms, and restraints.
- A fast, focused inspection prevents bad surprises. Use OOS when warranted.
- At intersections: follow the wail → yelp → stop → clear → ≤10 mph → yelp-through sequence — every time.
- Choose conservative tactics for downed lines and crowds. Park to protect people and preserve egress.
- Finish with a disciplined post-run reset and a brief debrief to keep improving.

WORKBOOK — LESSON 10: THE RUN

Section A — Knowledge Check

1. List the elements of a 30–45 second crew brief before rolling.

2. Describe the predeparture restraint and securement check.

3. List three ways to reduce patient fright during transport.

4. Describe the post-run reset and why each step matters.

Section B — Multiple Choice

5. At a scene with a downed power line across a vehicle, the operator should:

- A. Have the driver exit slowly.

- B. Pull the line off with a fiberglass pike pole.
- C. Establish a large exclusion zone and request utility immediately.
- D. Place flares to illuminate the line for arriving units.

6. After clearing the far lane and making eye contact with drivers, the operator should proceed through the intersection at:

- A. The posted speed limit.
- B. Under 10 mph with continued yelp.
- C. Under 25 mph with air horn.
- D. Whatever speed the operator is comfortable with.

Section C — True / False

7. The operator should narrate actions such as “slowing for a pothole” to reduce patient anxiety.

- TRUE
- FALSE

8. The post-run debrief is optional if nothing went wrong.

- TRUE
- FALSE

Section D — Final Scenario

9. Walk through a complete run from dispatch to post-run reset for a priority-1 call in your home response area. Identify your readiness check, crew brief, predeparture, intersection procedure, scene placement, patient contact, transport, and post-run reset.

Appendix A

EVOC Driving Course — Practical Skills

Purpose

The driving course is the hands-on practical component of the Emergency Vehicle Operator Course. It provides the student with the opportunity to demonstrate, under an instructor's direct supervision, the vehicle-handling skills developed in Lessons 1 through 10 of this manual.

Successful completion of the driving course is required for course certification. Students should review this appendix, along with the relevant classroom lessons, before reporting to the driving range.

Preparing for the Driving Course

Before your scheduled driving practical:

- You should have received an email with your course location, date, and time.
- Please be on time. Notify the instructor if you will be late or absent.
- Dress comfortably for the course.
- Please wear closed-toe shoes.
- Review this appendix and your completed workbook to know what is expected of you.

Driving Range Rules

RULES FOR THE RANGE

- Each exercise should be run slowly at first, then with gradually increased speed.
- Ground guides should be used when possible.
- Seat belts are worn at all times.
- Both hands on the wheel.
- Slow and in control.
- Relax. You have practiced most of these skills on the way to the driving practical.

The Ten Practical Maneuvers

The driving course consists of the following ten maneuvers, performed in order at the instructor's direction:

1. Serpentine
2. Diminishing Clearance
3. Braking While Turning
4. Straight-Line Braking
5. U-Turn
6. Three-Point Turn
7. Right Side Road Turn
8. Left Side Road Turn
9. Slow-Speed Lane Change
10. Backing

1

MANEUVER Serpentine

Purpose: To demonstrate smooth steering inputs and precise vehicle control through a series of alternating turns at low speed.

Course Setup: A line of cones spaced evenly apart forming a serpentine course. The student weaves the vehicle through the cones without contact.

Procedure

1. Approach the first cone at a controlled speed — slow and steady.
2. Position the vehicle to one side of the first cone.
3. Steer smoothly around each cone, alternating sides.
4. Keep both hands on the wheel throughout the maneuver.
5. Maintain a consistent, low speed — this exercise rewards smoothness, not speed.
6. Exit the course in the direction indicated by the instructor.

KEY POINTS

- Look ahead to the next cone, not at the one you are passing.
- Smooth steering inputs — no jerking the wheel.
- Gentle throttle input; avoid braking in the middle of the course.
- Use mirrors to monitor rear-body position (tail swing).

COMMON ERRORS TO AVOID

- ✗ Looking directly at the cone you are passing instead of the next one.
- ✗ Oversteering and correcting late.
- ✗ Accelerating through the course to save time.
- ✗ Hitting cones with the rear of the vehicle because of unobserved tail swing.

Student Notes

2

MANEUVER

Diminishing Clearance

Purpose: To develop vehicle width awareness and the ability to place the vehicle precisely between narrowing boundaries.

Course Setup: Two rows of cones forming a lane that narrows progressively. The student drives straight through the narrowing lane without contact.

Procedure

1. Align the vehicle with the center of the lane before entering.
2. Enter the course at a slow, controlled speed.
3. Use your mirrors to confirm lateral position on both sides.
4. Maintain steady throttle — do not coast through the narrow section.
5. Exit the course and bring the vehicle to a smooth stop.

KEY POINTS

- Align using a fixed reference point on the hood to the center of the lane.
- Mirror-check both sides as the lane narrows.
- Smoothness over speed — small steering corrections only.
- Keep your eyes forward, not down at the cones.

COMMON ERRORS TO AVOID

- X Drifting to one side of the lane because of uneven steering grip.
- X Braking in the narrow section (unloads suspension and increases perceived width error).
- X Looking down at the cones instead of scanning forward.

Student Notes

3

MANEUVER

Braking While Turning

Purpose: To demonstrate safe, controlled braking while the vehicle is turning — a situation the operator may encounter in the field.

Course Setup: A marked turn with a designated braking zone. The student turns the vehicle and brakes to a complete stop within the zone.

Procedure

1. Approach the turn at the designated speed.
2. Begin the turn using smooth steering input.
3. As directed, begin braking smoothly while the vehicle is still in the turn.
4. Continue braking to a smooth, complete stop within the marked zone.
5. Note the difference in feel versus straight-line braking.

KEY POINTS

- Brake progressively — do not stab the pedal.
- Keep the vehicle in the turn geometry; do not straighten to brake.
- Be aware of weight transfer — heavier on the outside wheels during the turn.
- This maneuver simulates unexpected scenarios; in normal driving, brake before the turn.

COMMON ERRORS TO AVOID

- ✗ Slamming the brakes and losing steering control.
- ✗ Straightening the wheel to brake and running wide of the turn.
- ✗ Under-braking and overshooting the stop zone.

Student Notes

4

MANEUVER

Straight-Line Braking

Purpose: To demonstrate smooth, controlled braking from a given speed to a complete stop within a defined zone, using the full capability of the ambulance's brakes.

Course Setup: A straight lane with a start line, an acceleration zone, a braking zone, and a stop line. The student accelerates to the designated speed and brakes to a stop within the zone.

Procedure

1. Accelerate smoothly from the start line to the designated speed.
2. Hold steady speed through the acceleration zone.
3. At the braking-zone marker, apply the brakes firmly and smoothly.
4. Maintain steering input straight ahead — do not allow the vehicle to drift.
5. Bring the vehicle to a smooth, complete stop before the stop line.

KEY POINTS

- Progressive brake application — build pressure, do not stab.
- Both hands on the wheel; resist the natural tendency to grip harder on one side.
- Keep your eyes forward on the stop line, not down at the brake pedal.
- Feel the weight transfer forward; anticipate the dip.

COMMON ERRORS TO AVOID

- X Braking too late and overshooting the stop line.
- X Braking too early and stopping short with slow, uneven deceleration.
- X Letting the vehicle drift due to uneven grip on the wheel.

Student Notes

5

MANEUVER U-Turn

Purpose: To demonstrate the ability to reverse the vehicle's direction of travel in a single continuous turn using only the available roadway width.

Course Setup: A marked area representing a roadway with curbs or cones on both sides. The student performs a U-turn without contacting either boundary.

Procedure

1. Position the vehicle at the far right side of the roadway.
2. Signal left; check mirrors and blind spots.
3. Begin the turn with full left steering lock.
4. Ease through the turn at walking speed.
5. Monitor the outside-front and inside-rear corners via mirrors.
6. Straighten the wheel as the vehicle completes the turn.
7. Stop smoothly in the opposite lane.

KEY POINTS

- Start from the far right edge to maximize available arc.
- Plan the turn entry — do not start turning until you are in position.
- Watch for off-tracking as the rear wheels cut the corner.
- Use a ground guide if available; stop immediately if the guide loses sight of you.

COMMON ERRORS TO AVOID

- ✗ Starting the turn from the middle of the roadway — loses available arc.
- ✗ Turning too fast and losing control of the tail.
- ✗ Failing to check blind spots and mirrors before initiating the turn.

Student Notes

6

MANEUVER

Three-Point Turn

Purpose: To demonstrate the ability to reverse the vehicle's direction of travel on a roadway too narrow for a U-turn, using a three-point sequence.

Course Setup: A narrow marked area with boundaries on both sides. The student reverses direction using three distinct movements: forward-left, reverse-right, forward to straight.

Procedure

1. Stop on the right side of the roadway and signal left.
2. Check traffic in all directions; confirm the lane is clear.
3. Movement 1 — forward-left: turn the wheel full left and drive forward to the far boundary. Stop.
4. Movement 2 — reverse-right: shift to reverse, turn the wheel full right, and back to the opposite boundary. Stop.
5. Movement 3 — forward-straight: shift to drive, straighten the wheel, and proceed in the new direction.
6. Use a ground guide for the reverse segment when possible.

KEY POINTS

- Come to a complete stop between each movement before changing direction.
- Turn the wheel only when the vehicle is moving — do not dry-steer when stopped.
- Check mirrors and rear camera during the reverse segment.
- Keep the speed at walking pace for all three movements.

COMMON ERRORS TO AVOID

- X Failing to stop completely between movements.
- X Starting the reverse before the wheel is fully turned.
- X Relying on a single mirror instead of scanning all of them.

Student Notes

7

MANEUVER

Right Side Road Turn

Purpose: To demonstrate a controlled right turn from a main roadway onto a side street, accounting for off-tracking and tail swing.

Course Setup: A marked intersection simulating a right turn onto a narrower side street. The student executes the turn without contacting cones representing curbs, pedestrians, or parked vehicles.

Procedure

1. Approach the intersection at reduced speed.
2. Signal the right turn well before the intersection.
3. Check the right-side mirror for cyclists, pedestrians, or vehicles along the curb.
4. Position slightly wide of the usual turn line to allow for off-tracking.
5. Enter the turn at low speed; watch the right-rear corner via mirror.
6. Straighten into the new lane and resume normal speed.

KEY POINTS

- Swing wider than you would in a passenger vehicle — the rear wheels cut the corner.
- Mirror-check the right rear throughout the turn for tail swing.
- Watch for cyclists who may be on the right side of the vehicle.
- Do not swing into the oncoming lane of the side street.

COMMON ERRORS TO AVOID

- ✗ Turning from too tight a line and striking the curb with the right rear wheels.
- ✗ Failing to signal early enough for other drivers and pedestrians.
- ✗ Missing a cyclist in the right-side blind spot.

Student Notes

8

MANEUVER

Left Side Road Turn

Purpose: To demonstrate a controlled left turn from a main roadway onto a side street, with appropriate lane positioning and timing.

Course Setup: A marked intersection simulating a left turn onto a side street. The student executes the turn without contacting cones representing curbs, pedestrians, or the oncoming lane boundary.

Procedure

1. Approach the intersection at reduced speed.
2. Signal the left turn well before the intersection.
3. Position in the left-turn lane or the left side of the travel lane.
4. Yield to oncoming traffic until a safe gap exists.
5. Enter the turn smoothly; aim for the correct lane of the side street.
6. Straighten and resume normal speed.

KEY POINTS

- Do not cut the corner — aim for the far lane of the side street, not the near one.
- Watch for pedestrians crossing the side street.
- Be patient with oncoming gaps. Do not force the turn.
- Mirror-check both sides; tail swing is less pronounced on a left turn but still present.

COMMON ERRORS TO AVOID

- X Cutting the corner and entering the oncoming lane of the side street.
- X Forcing a turn into a marginal gap in oncoming traffic.
- X Losing situational awareness of pedestrians in the crosswalk.

Student Notes

9

MANEUVER

Slow-Speed Lane Change

Purpose: To demonstrate a controlled lane change at low speed, with appropriate signaling, mirror checks, and smooth steering.

Course Setup: A marked lane with a transition zone to an adjacent lane. The student changes lanes smoothly without crossing the boundary outside the transition zone.

Procedure

1. Travel in the designated lane at low speed.
2. Signal the lane change well before initiating.
3. Check the mirror on the direction of change.
4. Check the blind spot on the direction of change.
5. Steer smoothly into the new lane within the transition zone.
6. Cancel the signal and resume lane-centered travel.

KEY POINTS

- Plan ahead. Signal before steering.
- Mirror check — blind-spot check — steer. In that order.
- Smooth, gentle steering input — the change should feel deliberate.
- Return to the center of the new lane; do not ride the boundary.

COMMON ERRORS TO AVOID

- X Changing lanes in one motion without mirror and blind-spot checks.
- X Oversteering and drifting across the far boundary.
- X Signaling after the steering has already begun.

Student Notes

10

MANEUVER
Backing

Purpose: To demonstrate the ability to reverse the vehicle under full control, using a ground guide and mirrors, and to back into a defined space.

Course Setup: A marked space — typically a bay or parking zone — that the student must back into from a designated starting position. A ground guide is positioned at the left rear.

Procedure

1. Before moving: walk around the vehicle to confirm clearances (360° check).
2. Brief the ground guide on the intended path and hand signals.
3. Position the ground guide at the left-rear corner; keep them in view in the left mirror.
4. Shift to reverse; activate backup alarm if equipped.
5. Back slowly using light throttle — no coasting, no drifting.
6. Use both side mirrors continuously; do not rely on one alone.
7. If you lose sight of the ground guide, stop immediately.
8. Bring the vehicle to a smooth stop in the space.

KEY POINTS

- Always use a ground guide when available.
- Keep the guide at the LEFT-rear corner, in view in the left mirror.
- If the guide disappears from the mirror — STOP. Re-establish visual contact before continuing.
- Back at walking pace; there is no time benefit to backing quickly.
- Agree on hand signals in advance; do not rely on verbal communication in a noisy environment.

COMMON ERRORS TO AVOID

- X Backing without a ground guide when one is available.
- X Losing sight of the guide and continuing to reverse.
- X Using only the rear-view mirror or camera; ignoring side mirrors.
- X Backing too fast to react to a sudden obstacle.

Student Notes

Completing the Driving Course

After successful completion of all ten maneuvers under instructor supervision:

- Your instructor will sign your course completion record (see Appendix C).
- Review any maneuvers flagged by the instructor for additional practice.
- Please e-mail training@trilogyems.com to notify Trilogy of your course completion.

Congratulations — you have completed the Emergency Vehicle Operator Course.

Appendix B

Glossary of Key Terms

The following glossary defines the key terms used throughout this course. Terms are listed alphabetically.

Abandonment	The act of refusing to transfer care or terminating transportation prior to being relieved by other qualified health care providers.
Additional Duty (AD)	A designation applied to Type I and Type III ambulances with GVWR of 14,001 pounds or more, increased storage, and increased payload.
Backing	Any movement of the vehicle in reverse. Best practice requires a ground guide positioned at the left rear, in view in the left mirror, at all times.
Consent	Legal authorization to treat a patient. Forms include expressed, implied, and consent for minors or incapacitated persons.
Crosswinds	Wind that strikes the vehicle from the side, capable of displacing the vehicle from its lane. Increases in effect during rain, snow, or ice.
Defensive Driving	Doing everything reasonably possible to avoid being involved in a preventable crash, regardless of what the law is, what the other driver does, or the driving conditions.
Due Regard	A reasonably careful person, performing similar duties and under similar circumstances, would act in the same manner. The legal standard by which an emergency vehicle operator's conduct is measured.
EVOC	Emergency Vehicle Operator Course. A training program for EMS providers, firefighters, and other emergency personnel who operate an ambulance or other emergency response vehicle.
Exemption	A limited privilege granted by state law to emergency vehicle operators, allowing deviation from certain traffic laws when operating in emergency mode. Exemptions require a true emergency, use of warning devices, and maintenance of due regard.
Good Samaritan Provision	A law that protects persons who give aid at the scene of an emergency from liability for additional damage or injury caused

	during the provision of that aid. Typical limits apply to on-duty providers and gross negligence.
Ground Guide	A second person positioned outside the vehicle to assist the operator during backing or tight maneuvers. Best-practice position is the left rear, in view in the left mirror.
GVWR	Gross Vehicle Weight Rating. The maximum weight that a vehicle can safely carry, including the vehicle itself, fuel, crew, patient, and equipment. Established by the manufacturer.
HazMat	Hazardous materials. Substances that, if released, pose a risk to health, safety, property, or the environment.
Hydroplaning	Loss of traction caused by water between the tires and the roadway. As little as 1/16 inch of water can cause hydroplaning.
Implied Consent	The legal assumption that an unresponsive or life-threatened patient would consent to care if able. Allows treatment without expressed consent in life-threatening emergencies.
Incident Commander (IC)	The person in overall charge of an incident. At multi-agency scenes, the IC directs placement and operations of all responding units.
KKK-A-1822	The Federal Specification, published by the General Services Administration, that recognizes three types of ambulances (I, II, and III) and their Additional Duty variants. Establishes minimum standards for design, construction, and equipment.
L/S	Lights and Siren. The audible and visual warning devices used during emergency-mode operation.
MDT	Mobile Data Terminal. An in-vehicle computer used to receive dispatch information, mapping, and status updates.
National Voluntary Consensus Standard	The standardized process for clearing controlled intersections in emergency mode: wait at 300 feet, yelp at 150 feet, stop at the crosswalk, two blasts of air horn, clear each lane, proceed under 10 mph with continued yelp.
Negligence	Any action which violates a standard of practice or care. Requires duty, breach, causation, and damages to establish legal liability.
Off-Tracking	The tendency of rear wheels to follow a tighter arc than the front wheels during a turn. Requires the operator to swing wider on turns in large vehicles.
OOS	Out of Service. A vehicle placed OOS is not available for response until the identified defect is corrected.

Payload	The weight that can be added to a vehicle — crew, patient, gear, fuel, and liquids — without exceeding the GVWR.
PHI	Protected Health Information. Patient identifying information and health data protected by HIPAA and agency confidentiality policy.
PREP	A four-step route-planning method: Preview (map and traffic), Risks (low bridges, rails, school zones), Evaluate alternates (A and B), Position (safe approach and egress).
Preventive Maintenance (PM)	Scheduled maintenance performed at defined intervals (mileage, hours, or time) to prevent breakdowns and prolong vehicle life.
Protective Shadow	The sheltered work area created on the downstream side of the ambulance when it is positioned as a barrier between moving traffic and the scene.
Reaction Time	The time between perception of a hazard and the initiation of a braking or steering response. Increases with fatigue and distraction.
Safety Cushion	The empty space maintained around the vehicle on all sides to allow reaction time, evasive options, and visibility.
Star of Life	The six-pointed emblem representing the six functions of EMS — detection, reporting, response, on-scene care, care in transit, and transfer to definitive care. Displayed on ambulances meeting KKK specification.
Tail Swing	The outward movement of the rear of a vehicle during a turn, as the front pivots. Must be cleared before initiating turns in large vehicles.
True Emergency	A situation involving a high probability of death or serious injury to an individual, and in which action by the operator may reduce the seriousness of the situation. Required for exemption from certain traffic laws.
Wail	A siren tone pattern characterized by long rising and falling notes. Used at longer distances from intersections per the National Voluntary Consensus standard.
Yelp	A siren tone pattern characterized by short, rapid rising and falling notes. Used at shorter distances and through intersections per the National Voluntary Consensus standard.
2-4-12 Rule	A safe-following rule: 2 seconds minimum following distance in ideal conditions, 4 seconds in adverse conditions, 12 seconds eye-lead time.

Appendix C

Course Completion Record

Student Information

Student Name:

Agency / Department:

State License / Certification Number:

Course Start Date:

Course End Date:

Classroom Completion

The student has satisfactorily completed classroom instruction for the following lessons:

- | | |
|---|---|
| <ul style="list-style-type: none"><input type="radio"/> Lesson 1 — Introduction<input type="radio"/> Lesson 2 — Legal Aspects<input type="radio"/> Lesson 3 — Communication<input type="radio"/> Lesson 4 — Ambulance Types<input type="radio"/> Lesson 5 — Inspections & Maintenance | <ul style="list-style-type: none"><input type="radio"/> Lesson 6 — Navigation & Route Planning<input type="radio"/> Lesson 7 — Basic Maneuvers<input type="radio"/> Lesson 8 — Emergency Mode<input type="radio"/> Lesson 9 — Special Considerations<input type="radio"/> Lesson 10 — The Run |
|---|---|

Driving Course — Practical Evaluation

The student has demonstrated each of the following maneuvers under direct instructor supervision. Mark Pass or Retry. Complete all ten maneuvers before certification.

#	Maneuver	Pass	Retry	Instructor Notes
1	Serpentine	<input type="radio"/>	<input type="radio"/>	
2	Diminishing Clearance	<input type="radio"/>	<input type="radio"/>	
3	Braking While Turning	<input type="radio"/>	<input type="radio"/>	
4	Straight-Line Braking	<input type="radio"/>	<input type="radio"/>	
5	U-Turn	<input type="radio"/>	<input type="radio"/>	
6	Three-Point Turn	<input type="radio"/>	<input type="radio"/>	
7	Right Side Road Turn	<input type="radio"/>	<input type="radio"/>	
8	Left Side Road Turn	<input type="radio"/>	<input type="radio"/>	
9	Slow-Speed Lane Change	<input type="radio"/>	<input type="radio"/>	
10	Backing	<input type="radio"/>	<input type="radio"/>	

Final Certification

Lead Instructor — Printed Name:

Lead Instructor — Signature:

Date of Completion:

Certification Number:

CERTIFICATION STATEMENT

By signing above, the Lead Instructor certifies that the student named has satisfactorily completed all classroom and practical components of the Emergency Vehicle Operator Course provided by Trilogy Emergency Medical Solutions, and has demonstrated the knowledge and skills required of an emergency vehicle operator.