**CLASS A CDL CORE CURRICULUM**

**THEORY**

 **BASIC OPERATION**

The units in this section must cover the interaction between the trainee and the commercial motor vehicle (CMV). The trainee will receive instruction in the Federal Motor Carrier Safety Regulations (FMCSRs) and will be introduced to the basic CMV instruments and controls. The units in this section must also teach entry-level CDL trainees how to properly perform vehicle inspections, control the motion of CMVs under various road and traffic conditions, shifting and backing techniques, and how to properly couple and uncouple combination vehicles. During the off-street driving exercises required by this section, entry-level CDL trainees must first familiarize themselves with the basic operating characteristics of a CMV. Then, trainees must be able to perform the skills in each unit to a level of competency required to permit safe transition to on‑street driving.

 Orientation

This unit must introduce trainees to the combination vehicle driver training curriculum and the components of a combination vehicle. The trainee will learn the safety fundamentals, essential regulatory requirements (i.e., overview of FMCSRs/hazardous materials (HM) regulations), and trainee responsibilities not directly related to driving. This unit must also cover the ramifications and driver disqualification provisions and fines for non-compliance with the various sections of the FMCSRs including Parts 380, 382, 383, 387, and 390-399. This unit must also include an overview of the applicability of State and local laws relating to the safe operation of the CMV, stopping at weigh stations/scales, hazard awareness of vehicle size and weight limitations, low clearance areas (e.g., CMV height restrictions), and bridge formulas.

 Control Systems/Dashboard

This unit must introduce trainees to vehicle instruments and controls. The trainee will learn to read gauges and instruments correctly and learn proper use of vehicle safety components, including safety belts and mirrors. The trainee will also learn to identify, locate, and explain the function of each of the primary and secondary controls including those required for steering, accelerating, shifting, braking, and parking.

 Pre and Post-Trip Inspections

This unit must stress to trainees the importance of vehicle inspections and help them develop the skills necessary for conducting pre-trip, en-route, and post trip inspections. This unit would include instruction in a driver’s personal awareness of their surroundings, including at truck stops and/or rest areas, and at shipper/receiver locations.

 Basic Control

This unit must introduce basic vehicular control and handling as it applies to combination vehicles. This must include instruction addressing basic combination vehicle controls in areas such as executing sharp left and right turns, centering the vehicle, and maneuvering in restricted areas.

 Shifting/Operating Transmissions

This unit must introduce shifting patterns and procedures to the trainees so that they can safely and competently perform basic shifting maneuvers. This must include training each trainee to execute up and down shifting techniques on multi-speed dual range transmissions if appropriate. The importance of increased fuel economy utilizing proper shifting techniques should also be covered with the trainee in this unit.

 Backing and Docking

This unit must prepare trainees to back and dock the combination vehicle safely. This unit must cover “Get Out and Look” (GOAL), evaluation of backing/loading facilities, knowledge of backing set ups, as well as instruction in how to back with use of spotters.

Coupling and Uncoupling

This unit must provide instruction for the trainee to develop the skills necessary to conduct the procedures for safe coupling and uncoupling of combination vehicle units.

**SAFE OPERATING PROCEDURES**

The units in this section teach the practices required for safe operation of the combination vehicle on the highway. Entry-level CDL trainees must be taught how to apply their basic operating skills in a way that ensures their safety and that of other road users under various road, weather, and traffic conditions.

Visual Search

The purpose of this unit is to enable trainees to visually search the road for potential hazards and critical objects, including instruction on recognizing distracted pedestrians/distracted drivers. This unit would include instruction in how to ensure a trainee’s personal security/general awareness in common surroundings such as truck stops, and at shipper/receiver locations.

Vehicle Communications

The purpose of this unit is to enable trainees to communicate their intentions to other road users (e.g., proper signaling). Trainees will learn techniques for different types of communication on the road, including proper use of headlights, turn signals, four-way flashers, and horn. Instruction in proper utilization of eye contact techniques with other drivers and pedestrians will be covered in this unit.

Speed Management

The purpose of this unit is to enable trainees to manage speed effectively in response to various road, weather, and traffic conditions. The trainee must believe that driving competency cannot compensate for speed that is excessive for prevailing conditions. Instruction shall include methods for calibrating safe following distances under an array of conditions including traffic, weather and CMV weight and length.

Space Management

The purpose of this unit is to enable trainees to manage the space required for safe vehicle operation. Emphasis must be placed upon maintaining appropriate space surrounding the vehicle under various traffic and road conditions.

Night Operation

Trainees will learn how to operate a CMV safely at night. Heightened emphasis must be placed upon the factors affecting the safe operation of CMVs at night and in darkness driving. Night driving presents specific factors that require special attention on the part of the driver. Trainees shall be instructed in special requirements for vehicle safety inspection, vision, communications, speed, and space management and proper use of lights as needed to deal with the special problems night driving presents.

Extreme Driving Conditions

This unit must provide instruction addressing the driving of CMVs under extreme driving conditions. Emphasis must be placed upon the factors affecting the operation of CMVs in cold, hot, and inclement weather and on steep grades and sharp curves. Changes in basic driving habits are needed to deal with the specific problems presented by these extreme driving conditions. Trainees will also learn proper tire chaining procedures in this unit.

**ADVANCED OPERATING PRACTICES**

The units in this section must introduce higher-level skills that can be acquired only after the more fundamental skills and knowledge taught in the prior two sections have been mastered. Qualified driver-instructors must teach the perceptual skills necessary to recognize potential hazards and must demonstrate the procedures needed to handle a CMV when faced with a hazard.

Hazard Perception

The purpose of this unit is to enable trainees to recognize potential dangers in the driving environment and to take appropriate defensive action(s) before the dangers develop into emergency situations. The unit must provide instruction addressing the principles of recognizing hazards in sufficient time to reduce the severity of the hazard and neutralize possible emergency situations. Trainees must identify road conditions and other road users that are a potential threat to the safety of the combination vehicle and suggest appropriate adjustments. Emphasis must be placed upon hazard recognition, visual search, adequate surveillance, and response to possible emergency-producing situations encountered by CMV drivers in various traffic situations. Included in this unit should be an extensive overview of driver distraction issues, including improper cell phone use, texting, and use of in-cab technology.

Emergency Maneuvers/Skid Avoidance

The purpose of this unit is to enable trainees to carry out appropriate responses when faced with CMV emergencies. These must include evasive steering, emergency braking, off-road recovery, brake failures, tire blowouts, hydroplaning, skidding, jackknifing, and the rollover phenomenon. The discussion must include a review of unsafe acts and the role they play in producing hazardous situations.

Skid Control and Recovery

The purpose of this unit is to teach the causes of skidding and jackknifing and techniques for avoiding and recovering from them. The trainee must be able to maintain directional control and bring the CMV to a stop in the shortest possible distance while operating over a slippery surface.

Railroad Crossings

Trainees will learn to recognize potential dangers and appropriate safety procedures to utilize at railroad (RR) grade crossings. This instruction will include an overview of various State RR grade crossing regulations, railroad crossing environment, obstructed view, clearance around the tracks, and knowledge of rail signs and signals. Trainees will also learn to recognize potential dangers and the appropriate safety procedures to utilize at construction/work zones.

**VEHICLE SYSTEMS AND REPORTING MALFUNCTIONS**

This section is intended to provide entry-level CDL trainees with sufficient knowledge of the combination vehicle and its systems and subsystems to ensure that they understand and respect their role in vehicle inspection, operation, and maintenance and the impact of those factors upon highway safety and operational efficiency.

Identification and Diagnosis of Malfunctions, Including Out-of-Service (OOS) Violations

The purpose of this unit is to teach trainees to identify major combination vehicle systems. The goal is to explain their function and how to check all key vehicle systems, e.g., engine, engine exhaust auxiliary systems, brakes, drive train, coupling systems, and suspension. The trainee will be provided with a detailed description of each system, its importance to safe and efficient operation, and what is needed to keep the system in good operating condition. The trainee will further learn what vehicle and driver violations are classified as OOS violations in the North American Standard OOS Criteria Handbook, including the ramifications/penalties for “jumping” an OOS order.

Maintenance

The purpose of this unit is to introduce trainees to the basic servicing and checking procedures for various engine and vehicle components and to help develop their ability to perform preventive maintenance and simple emergency repairs.

**NON-VEHICLE ACTIVITIES**

The units in this section are designed to prepare entry-level CDL trainees to handle those responsibilities of a combination vehicle driver that do not involve operating the CMV. The units in this section must ensure these activities are performed in a manner that ensures the safety of the driver, vehicle, cargo, and other road users.

Handling and Documenting Cargo

The purpose of this unit is to enable trainees to understand the basic theory of cargo weight distribution, cargo securement on the vehicle, cargo covering, and techniques for safe and efficient loading/unloading in the classroom followed by practical demonstration and practice. The trainee will learn basic cargo security/cargo theft training procedures in this unit. Basic information regarding the proper handling and documentation of HM cargo will also be covered in this unit.

Environmental Compliance Issues

The trainee will learn to recognize environmental hazards and issues related to the CMV and load, and be made aware that there may be city, county, state/provincial, and federal requirements applicable to such circumstances.

Hours of Service (HOS) Requirements

The purpose of this unit is to enable trainees to understand that there are different HOS requirements applicable to different industries. The trainee will learn HOS regulatory requirements applicable to the trainee. The trainee will develop the ability to complete a Driver’s Daily Log and logbook recap or other applicable system for recording HOS. The trainee will learn the consequences of violating the HOS regulations (safety, legal, and personal) including the fines and penalties for these types of violations.

Fatigue and Wellness Awareness

The issues and consequences of chronic and acute driver fatigue and the importance of staying alert will be covered in this unit. The trainee will also learn regulatory requirements regarding driver wellness and basic health maintenance as they affect a driver’s ability to safely operate a CMV. This unit should address personal issues such as diet, exercise, personal hygiene, stress, and lifestyle changes. When providing instruction regarding HOS requirements, trainees shall be instructed in the extreme safety risks associated with fatigued driving. Additional resources are available to support this instruction through the North American Fatigue Management Program (NAFMP) at http://www.nafmp.org.en/.

Accident Procedures

The purpose of this unit is to teach trainees how to follow safe and legal procedures at a crash scene. The trainee will be instructed that when they may be involved in an accident and not seriously hurt, they need to act to prevent further damage or injury. This training would include the basic steps to be followed at an accident scene including: 1) protecting the area; notifying authorities; and 3) caring for the injured.

Post-Crash Procedures

Including “Post-Accident Procedure” training *early in the driver-training curriculum* may enhance the impact of subsequent training and have a positive influence in reducing new-entrant driver crashes.  Accordingly, trainees shall learn appropriate post-crash procedures, including the requirement that the driver, if possible, assess his/her physical condition immediately after the crash and notify authorities, or assign the task to other individuals at the crash scene.  Also, trainees shall be given instruction in obtaining emergency necessary medical assistance; moving on-road vehicles off the road in minor crashes so as to avoid subsequent crashes or injuries; engaging flashers, triangles, etc.; responsibilities for assisting injured parties and Good Samaritan Laws; driver legal obligations and rights, including rights and responsibilities for engaging with law enforcement personnel; and the importance of learning company policy on post-accident procedures.  Trainees may also receive instruction in the value and techniques of photographing the scene; obtaining witness information, skid measurements; and assessing signage, road, and weather conditions.

External Communications

Trainees should be taught the value of effective interpersonal communication techniques/skills to interact with enforcement officials. Trainees shall be taught the specifics of the roadside vehicle inspection process, and what to expect during this activity. Trainees who are not native English speakers shall be instructed in FMCSA English language proficiency requirements and consequences for violations. Trainee will also learn the basics and implications of FMCSA’s Compliance, Safety, Accountability (CSA) system.

Whistleblower/Coercion

The right of an employee to question the safety practices of an employer without incurring the risk of losing a job or being subject to reprisals simply for stating a safety concern is included in this unit. The trainee will become familiar with the whistleblower protection regulations in 29 CFR part 1978. This unit would include instruction in procedures for drivers/students to report incidents of coercion from motor carriers, shippers, receivers, or transportation intermediaries to FMCSA.

Trip Planning

This unit must address the importance of and requirements for planning routes and trips. This instruction must address the importance of planning the safest route, including planning for rest stops, heavy traffic areas, rail‑highway grade crossing safe clearance (i.e., “high center”), and the importance of Federal and State requirements on the need for permits, and vehicle size and weight limitations. Trainee will be instructed in the correct identification of restricted routes, demonstrating and made aware of the pros and cons of Global Positioning System (GPS)/trip routing software, and the importance of selecting fuel-efficient routes.

Drugs/Alcohol

In this unit, trainees will learn that there are a variety of rules applicable to drugs and alcohol training and shall receive the training required by the drug and alcohol regulations that apply to them, including consequences for engaging in substance use-related conduct. The importance of avoiding use of drugs/alcohol in violation of applicable regulations must be covered in this unit.

Medical Requirements

In this unit, trainees will learn the Federal rules on medical certification, medical examination procedures, general qualifications, responsibilities, and disqualifications based on various offenses, orders, and loss of driving privileges (49 CFR part 391, subparts B and E).

***VEHICLE MANEUVERS/SKILLS/RANGE***

The activities of this unit must consist of driving exercises that provide practice for the development of basic control skills and mastery of basic maneuvers as covered in the American Association of Motor Vehicle Administrators (AAMVA) manual (i.e., Parts 383.111 and 383.113 of the FMCSRs), to operate the vehicle safely . Nearly all activity in this unit will take place on the driving range or on the streets, roads or lots that have low-density traffic conditions.

Vehicle Inspection Pre-Trip/En-route/Post-Trip

Trainees shall learn and demonstrate proper techniques for performing pre-trip, en-route, and post-trip inspections making accurate notes of actual and suspected component abnormalities or malfunctions using a Driver Vehicle Inspection Report (DVIR) in accordance with the FMCSRs.

Straight Line Backing

Trainees shall learn and demonstrate proper techniques for performing various straight line backing maneuvers with appropriate criteria/acceptable tolerances.

Alley Dock Backing (45/90 Degree)

Trainees shall learn and demonstrate proper techniques for performing 45/90 degree alley dock maneuvers, to appropriate criteria/acceptable tolerances.

Off-set Backing

Trainees shall learn and demonstrate proper techniques for performing off-set backing maneuvers to appropriate criteria/acceptable tolerances.

Parallel Parking Blind Side

Trainees shall learn and demonstrate proper techniques for performing parallel parking blind side positions/maneuvers to appropriate criteria/acceptable tolerances.

Parallel Parking Sight Side

Trainees shall learn and demonstrate proper techniques for performing sight side parallel parking maneuvers with appropriate criteria/acceptable tolerances.

Coupling and Uncoupling

Trainees shall learn and demonstrate proper techniques for coupling, inspecting and uncoupling combination vehicle units, in accordance with safety requirements and approved practices.

**ROAD**

The trainer must engage in active two-way communication with the trainee during all active training sessions and evaluate the driving competence of the trainee during all behind-the-wheel (BTW) training.

Vehicle Controls including: Left Turn, Right Turns, Lane Changes, Curves at Highway Speeds

Trainees shall learn and demonstrate proper techniques for initiating vehicle movement, executing left and right turns, changing lanes, navigating curves at speed, and stopping the vehicle in a controlled manner.

Shifting/Transmission

Trainees shall learn and demonstrate proper techniques for performing safe and fuel-efficient shifting techniques, and making any necessary adjustments in the process.

Communications/Signaling

Trainees shall learn and demonstrate proper techniques for using correct procedures to signal intentions and effectively communicate with other drivers.

 Hazard Perception\* (partial demonstration)

Trainees shall learn to recognize potential dangers in the driving environment and to take appropriate defensive action(s) before the dangers develop into emergency situations. The unit must provide instruction addressing the principles of recognizing hazards in sufficient time to reduce the severity of the hazard and neutralize possible emergency situations. Trainees must identify road conditions and other road users that are a potential threat to the safety of the combination vehicle and suggest appropriate adjustments.

Railroad (RR) Crossing\* (demonstration where railroad crossing is available, simulated otherwise)

Trainees shall learn to recognize potential dangers and appropriate safety procedures to utilize at RR grade crossings, and shall demonstrate such techniques when RR crossings are reasonably available.

Night Operation \*

Trainees shall learn how to operate a CMV safely at night. Heightened emphasis must be placed upon the factors affecting the operation of CMVs at night. Trainees shall learn that night driving presents specific circumstances that require heightened attention on the part of the driver. Trainees shall be taught special requirements for in-vehicle safety inspection, night vision, communications, speed, and space management, and proper use of lights as needed to prepare the trainee to deal with the special problems night driving presents. Though not required in all cases, training providers are strongly encouraged to offer trainees night-driving instruction and experience where feasible.

Extreme Driving Conditions \*

Trainees shall be instructed in the special risks created by, and the heightened precautions required by, the driving of CMVs under extreme driving conditions, such as heavy rain, high wind, high heat, high grades, snow and ice. Emphasis shall be placed upon the factors affecting the operation of CMVs in cold, hot, and inclement weather and on steep grades and sharp curves. Trainees shall learn that changes in basic driving habits are needed to deal with the specific problems presented by these extreme driving conditions.

Emergency Maneuvers/Skid Avoidance \*

Trainees shall learn proper techniques such as evasive steering and emergency braking for preventing or dealing with such as brake failures, tire blowouts, hydroplaning, skidding, jackknifing, and the rollover phenomenon.

Skid Control and Recovery \*

Trainees shall learn the causes of skidding and jackknifing and techniques for avoiding and recovering from them. Trainees shall be taught to maintain directional control and bring the CMV to a stop in the shortest possible distance while operating over a slippery surface.

Visual Search

Trainee shall learn and demonstrate proper techniques for visually searching the road for potential hazards and critical objects.

 Speed and Space Management

Trainee shall learn and demonstrate proper habits and techniques for adjusting and maintaining vehicle speed, taking into consideration various factors such as traffic and road conditions. Trainees shall practice maintaining proper speed to maintain proper spacing between the trainee’s CMV and other vehicles. Instruction shall include methods for calibrating safe following distances under an array of conditions including traffic, weather, and CMV weight and length.

Safe Driver Behavior

In general, while driving, trainees shall learn and demonstrate safe driver behavior during their operation of the CMV.

Hours of Service (HOS)

Trainees shall learn the basic concepts and HOS requirements applicable to the trainee; and shall practice completing a Driver’s Daily Log, timesheet, and logbook recap as appropriate.

\*Indicates concepts that are discussed during road training or simulated but not necessarily performed.