**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 tractor-trailers. 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 proficiency required to permit safe transition to on‑street driving.

Orientation

This unit must introduce trainees to the tractor-trailer driver training curriculum and the components of a tractor-trailer. 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 at shipper/receiver locations.

Basic Control

This unit must introduce basic vehicular control and handling as it applies to tractor-trailers. This must include instruction addressing basic tractor-trailer 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 proficiently 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 tractor-trailer 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 tractor-trailer units.

**SAFE OPERATING PROCEDURES**

The units in this section teach the practices required for safe operation of the tractor-trailer 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 proficiency cannot compensate for speed that is excessive for prevailing conditions. Emphasis must also be placed upon maintaining safe vehicular speed.

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 tractor-trailer 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.

Passive Non-Signaled 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 tractor-trailer 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 tractor/trailer 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 tractor-trailer 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 take action to meet city, county, state/provincial, and federal requirements.

Hours of Service (HOS) Requirements

The purpose of this unit is to enable trainees to understand the basic concepts and requirements of the FMCSRs (Part 395, HOS of Drivers) and to develop the ability to complete a Driver’s Daily Log and logbook recap. The trainee will learn the consequences of violating the HOS regulations (safety, legal, and personal) including the fines and penalties for these type of violations.

Fatigue and Wellness Awareness

The issues and consequences of chronic and acute driver fatigue and staying alert will be covered in this unit. The trainee will also learn about driver wellness, sleep apnea, basic health maintenance, and will learn to develop and implement strategies to effectively manage personal issues such as fatigue, diet, exercise, personal hygiene, stress, personal finances and lifestyle changes. trainees shall be instructed in the extreme

External Communications

Trainees should be taught the value of effective interpersonal communication techniques/skills to interact with the company, customers, enforcement officials and the general public. 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 violations. Trainee will also learn the basics and implications of FMCSA’s Compliance, Safety, Accountability (CSA) system.

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, etc. Trainee will be instructed in the correct identification of restricted routes, demonstrating and made aware of the pros and cons of GPS/trip routing software, and the importance of selecting fuel-efficient routes. Unit must also include information on the importance of and requirements for planning trips, Federal and State requirements on the need for permits, and vehicle size and weight limitations.

Drugs/Alcohol

In this unit, trainees will learn the Federal rules on Controlled Substances and Alcohol Use and Testing in Part 382 of the FMCSRs, including consequences for engaging in substance use-related conduct. The importance of avoiding excessive use of drugs/alcohol 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).

**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 Administrator (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 or roads that have low-density traffic conditions.

VEHICLE MANEUVERS/SKILLS

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

The purpose of this unit is to train and ensure that the trainee is able to properly perform 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

The purpose of this unit is to train and ensure that the trainee is able to follow correct procedures to properly execute to appropriate criteria/acceptable tolerances various straight line backing maneuvers.

45 & 90 Degree Alley Dock Backing

The purpose of this unit is to train and ensure that the trainee is able to follow correct procedures to properly execute to appropriate criteria/acceptable tolerances 45-90 degree alley dock maneuvers.

Off-set Backing

The purpose of this unit is to train and ensure that the trainee is able to follow correct procedures to properly execute to appropriate criteria/acceptable tolerances off-set backing maneuvers.

Parallel Parking Blind Side

The purpose of this unit is to train and ensure that the trainee is able to follow correct procedures to properly execute to appropriate criteria/acceptable tolerances parallel parking blind side positions/maneuvers.

Parallel Parking Sight Side

The purpose of this unit is to train and ensure that the trainee is able to follow correct procedures to properly execute to appropriate criteria/acceptable tolerances parallel parking sight side positions/maneuvers.

Coupling and Uncoupling

The purpose of this unit is to train and ensure that the trainee is able to properly couple, inspect and uncouple tractor-trailer units, in accordance with safety requirements and approved practices.

**ROAD**

The trainer must evaluate the safe driving behavior of the trainee during all time behind-the-wheel (BTW).

Vehicle Controls including: Left Turn, Right Turns, Lane Changes, High Speed curves

The purpose of this unit is for the trainee to effectively initiate vehicle movement, correctly perform various vehicle maneuvers, and stop the vehicle in a controlled manner.

Shifting/Transmission

The purpose of this unit is for the trainee to properly learn/perform safe and fuel-efficient shifting techniques, and making any necessary adjustments in the process.

Communications/Signaling

The purpose of this unit is for the trainee to learn to use the correct procedures to signal intentions and effectively communicate with other drivers.

Hazard Perception\* (partial demonstration)

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 tractor-trailer and suggest appropriate adjustments.

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

The trainee will learn to recognize potential dangers and appropriate safety procedures to utilize at railroad (RR) grade crossings.

Night Operation \*

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

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.

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.

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.

Visual Search/Smith System

The purpose of this unit is to enable the trainee to visually search the road for potential hazards and critical objects.

Speed Management and Space Management

The purpose of this unit is for the trainee to learn and appropriately adjust and maintain vehicle speed, taking into consideration various factors such as traffic and road conditions. This unit will include instructing the student in maintaining proper speed to manage the space around the CMV from other vehicles.

Safe Driver Behavior

The purpose of this unit is to enable the trainee to demonstrate the safe driver behavior of the operation of the CMV.

Hours of Service

The purpose of this unit is to enable trainees to understand the basic concepts and requirements of the FMCSRs (Part 395, Hours of Service of Drivers); and to 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.