



Course Description

TRA0080 | Tractor Trailer Truck Driver | 10.67 credits

The Tractor Trailer Truck Driver course prepares students for entry into the trucking and logistics industry. Students explore career opportunities and requirements of a professional tractor trailer driver. Students study vehicle safety, accident prevention, operating regulations, cargo handling, documentation procedures, pre-trip preparation, vehicle inspection, maintenance, service, control procedures, backing, coupling, uncoupling, maneuvering, road and hazardous driving skills, and licensing requirements. Recommended Preparation: Must have a valid Florida Driver's License and good driving record; Must have Commercial Learner's Permit; Must pass DOT Health Examination; Must pass DOT Drug Test.

Course Competencies

Competency 1: The student will be able to demonstrate comprehension of vehicle safety and accident prevention procedures by:

1. Identifying and explaining the use of vehicle safety equipment
2. Utilizing fire extinguishers
3. Utilizing seat belts and personal protection gear appropriate to the type of operation
4. Demonstrating safe lifting procedures through the use of hands-on labs or through viewing safety videos
5. Describing personal safety equipment and procedures
6. Describe actions applicable for vehicle accidents
7. Reviewing reports in a classroom activity
8. Adhering to accident reporting requirements (company, state, federal)
9. Identifying all information needed for accident reports to the State, the employer, and the insurance company
10. Reviewing an accident report
11. Describing procedures for protecting the scene of an accident
12. Describing personal liability requirements
13. Identifying hazardous road conditions that are a potential threat to the safety of the truck driver
14. Describing activities and characteristics of other road users that make them potentially dangerous
15. Describing the potential consequences of excessive speed
16. Describing the potential consequences of the use of drugs or alcohol
17. Describing and demonstrating safety procedures for entering and exiting vehicles

Competency 2: The student will be able to understand and comply with vehicle operating regulations by:

1. Complying with Hours of Service regulations
2. Maintaining a complete, neat, and accurate driver's duty status log, including discussion of electronic logs
3. Keeping accurate records required by hours of service regulations
4. Reviewing mathematical calculations necessary to recap and apply totals to the hours of service regulations
5. Determining driving hours remaining on a particular day or tour of duty
6. Complying with applicable United States Department of Transportation regulations, including Federal Motor Carrier Safety Administration rules and regulations - Compliance, Safety, and Accountability (CSA), particularly the role of drivers and motor carriers
7. Complying with Federal, State, and local traffic laws, including restrictions on vehicle size and weight, including permits, when required

Competency 3: The student will be able to demonstrate proper cargo handling and documentation procedures by:

1. Loading and unloading cargo safely and efficiently
2. Calculating legal gross weight and axle weight
3. Describing cargo load to meet legal weight and safety requirements

4. Securing cargo using blocking, bracing, packing, rope, cable, chains and strapping
5. Identifying types of hazardous cargoes
6. Identifying the proper placement of placards when carrying hazardous materials
7. Implementing a procedure for using standard cargo handling equipment, including pallets, jacks, dollies, hand trucks, nets, slings, poles, and other equipment
8. Identifying categories of hazardous materials and the need for specialized training to handle hazardous materials
9. Describing hazardous materials documentation requirements
10. Verifying nature, amount and condition of cargo for both pickup and delivery
11. Verifying information on the bill of lading and correctly recording and reporting discrepancies and damage to the cargo
12. Verifying appropriate signatures on delivery receipts and other required forms
13. Comparing door seal number against shipping document
14. Describing the handling of C.O.D. shipments
15. Complying with weigh station and other inspection station procedures
16. Understanding how to load and unload cargo safely and efficiently
17. Understanding legal gross weight and axle weight
18. Describing cargo load to meet legal weight and safety requirements
19. Understanding how to secure cargo using blocking, bracing, packing, rope, cable, chains, and strapping
20. Identifying types of hazardous cargoes
21. Understanding the placement of placards when carrying hazardous materials
22. Understanding the procedure for using standard cargo handling equipment, including pallets, jacks, dollies, hand trucks, nets, slings, poles, and other equipment
23. Understanding categories of hazardous materials and the need for specialized training to handle hazardous materials
24. Understanding hazardous materials documentation requirements
25. Verify the nature, amount, and condition of cargo for pickup and delivery
26. Verifying information on the bill of lading and correctly recording and reporting discrepancies and damage to the cargo
27. Verifying appropriate signatures on delivery receipts and other required forms
28. Comparing door seal number against shipping document
29. Describing the handling of C.O.D. shipments
30. Complying with weigh station and other inspection station procedures

Competency 4: The student will be able to demonstrate trip planning preparation procedures by:

1. Checking vehicle registration and permit
2. Checking accident report packets for proper contents
3. Planning a route from one point to another that is optimal in terms of travel time, fuel costs, potential hazards, and federal, state, and local travel restrictions
4. Describing the use of manual and contemporary GPS navigation systems
5. Estimating travel times and arranging a secure place for layovers, especially when transporting hazardous materials
6. Demonstrating map reading skills
7. Estimating fuel consumption and planning fuel stops. Estimating expense money and obtaining funds and/or credit cards

Competency 5: The student will be able to demonstrate vehicle inspection procedures by:

1. Checking for previous days' DVIR
2. Checking the general appearance and condition of the vehicle
3. Checking fuel, oil, water levels, and automatic transmission fluid levels, and diesel emissions fluid (DEF)
4. Checking signal lights, stop lights, and running lights
5. Checking tires, rims, and suspension
6. Checking horns, windshield wipers, mirrors, and reflectors
7. Checking the fifth wheel, trailer hook-up, and brake lines

8. Checking emergency bi-directional reflective triangles and fire extinguishers
9. Checking instruments for regular readings
10. Checking steering system, brake action and tractor protection valve
11. Checking cargo-blocking, bracing, and tie-down
12. Performing in-route inspections
13. Performing a post-trip inspection of the vehicle and all systems

Competency 6: The student will be able to perform vehicle maintenance and servicing procedures by:

1. Describing the function and operation of principal vehicle systems, including engine, engine auxiliary brake, drive train, coupling, suspension and electrical system, DEP engines, and regeneration processes where applicable
2. Checking engine fuel, oil, DEF fluid, coolant, battery, and filters
3. Checking tire air pressure
4. Draining moisture from air brake supply reservoirs
5. Checking brakes and related systems
6. Checking fuses and reset circuit breakers
7. Cleaning the interior and exterior of the vehicle
8. Checking mud/rain flaps
9. Reviewing adjusting procedures for tandem and fifth-wheel slides, if so equipped

Competency 7: The student will demonstrate basic vehicle control procedures by:

1. Placing the transmission in neutral before starting the engine
2. Starting, warming up, and shutting down the engine according to the manufacturer's specifications
3. Building full pressure (90-120 PSI) in air tanks or to governed cut-out
4. Testing parking and service brakes before moving/driving the vehicle
5. Coordinating using accelerator and clutch to achieve smooth acceleration and avoid clutch abuse (if applicable)
6. Maintaining proper engine RPM while driving (if applicable)
7. Properly modulating air brakes to bring the vehicle to a smooth stop
8. Properly shifting up and down through all gears using a clutch (if applicable)
9. Double clutching non-synchronized transmissions and time shifting for smooth and fuel-efficient performance (if applicable)
10. Selecting proper gear for speed and highway conditions (if applicable)
11. Operating manual, automatic, or semiautomatic transmissions as available training equipment allows
12. Coordinating steering, braking, and acceleration to take the vehicle through a desired path forward and backward in a straight line
13. Adequately judging the path, the trailer will take (off tracking) as the vehicle negotiates left or right curves and turns
14. Using clutch and gears to maintain proper operating range/power/ RPM of the motor while slowing the vehicle (if applicable)
15. Parking the vehicle, setting brakes, and shutting off the engine
16. Discussing choking procedures

Competency 8: The student will demonstrate backing skills and basic vehicle maneuvers by:

1. Checking area before and during backing
2. Properly utilizing guides and mirrors
3. Properly backing in straight lines and curved paths
4. Properly backing into both 45° and 90° alley docks
5. Navigating through a 100 feet alley both forward and backward
6. Properly demonstrating an offset left/right backing maneuver
7. Properly positioning the unit for backing into a loading dock

8. Properly backing to a dock. (actual or simulated)
9. Properly stop the unit within 36 inches of the dock without contacting the dock. (actual or simulated)
Properly parallel parking (nightside/blindside)
10. Judging side, rear, and overhead clearances and trailer path
11. Making a straight-in approach to an alley
12. Driving forward through an alley for 100 feet

Competency 9: The student will demonstrate coupling and uncoupling skills by:

1. Reverse-steering and articulating a vehicle
2. Aligning the tractor properly to connect with the trailer
3. Backing and securing the tractor properly into the trailer kingpin without damage
4. Performing tug tests against the locking mechanisms
5. Performing visual checks to make sure the coupling is secure
6. Connecting electrical and air lines correctly
7. Setting in-cab air brake controls properly
8. Retracting and securing landing gear after coupling is secure
9. Properly uncoupling and securing the trailer

Competency 10: The student will be able to demonstrate road driving skills by:

1. Carefully entering traffic from a stopped or parked position
2. Using clutch and gears properly (if applicable)
3. Proceeding from a stopped position without rolling backward
4. Using mirrors properly
5. Signaling intention to turn well in advance of the turn
6. Getting into the proper lane to turn well before the turn
7. Checking traffic conditions and turning only when the intersection is clear
8. Restricting traffic from passing on the right when preparing to complete a right-hand turn
9. Maintaining 3 feet or less on the right side of the vehicle
10. Executing a right-hand turn to maintain 3 feet or less on the right side of the vehicle
11. Completing a turn promptly and safely and not impeding other traffic
12. Selecting and shifting to the proper gear before beginning any turn (if applicable)
13. Obeying all traffic signals
14. Planning stops in advance and adjusting speed correctly
15. Using brakes properly on grades
16. Planning stops far enough in advance to avoid hard braking
17. Stopping clear of crosswalks
18. Coming to a complete stop at all stop signs
19. Yielding right of way at intersections having yield signs
20. Checking for cross traffic regardless of traffic signals
21. Approaching all intersections prepared to stop if necessary
22. Stopping a minimum of 15 feet but not more than 50 feet before the railroad grade crossing if the stop is necessary. Selecting proper gear to avoid shifting gears on railroad grade crossing (if applicable)
23. Determining sufficient space required for passing
24. Passing only in safe locations
25. Describing in detail how to pass safely on a two-lane highway
26. Describing in detail how to pass safely on a four or more-lane highway
27. Signaling lane changes before and after passing
28. Passing only when appropriate to avoid impeding other traffic
29. Returning to the right lane promptly, but only when safe
30. Observing speed limits
31. Adjusting speed properly to road, weather, and traffic conditions
32. Slowing down ahead of curves, danger zones, and intersections

33. Maintaining consistent speed where possible
34. Yielding right of way
35. Allowing faster traffic to pass
36. Demonstrate the proper procedures for navigating a weigh station
37. Using the horn only when necessary
38. Parking only in legally permissible parking areas
39. Checking instruments at regular intervals
40. Maintaining proper engine RPM while driving
41. Determining minimum front-to-rear distances when following other vehicles using industry-recognized standards

Competency 11: The student will be able to demonstrate hazardous driving skills by:

1. Implementing proper preparation for operation in cold weather
2. Demonstrating proper procedure for expelling moisture from the air tanks after each trip
3. Listing proper procedure for checking ice accumulation on brakes, slack adjuster, air hoses, electrical wiring, and radiator shutters during operation
4. Performing operational adjustments necessary to maintain control in all weather conditions, including speed selection, braking, and following distance
5. Describing procedures to check the safe operation of brakes after driving through deep water
6. Performing proper use of windshield wipers, washers, and defrosters to maintain visibility
7. Demonstrating the ability to recognize and evaluate changing road conditions that produce low traction, including initial rainfall, ice, snow, and mud
8. Demonstrating or understanding the ability to recognize conditions that produce low traction, including initial rainfall, ice, snow, and mud
9. Implementing proper procedures to avoid skidding and jackknifing
10. Implementing proper procedures to avoid hydroplaning and describe the road and vehicle conditions that produce it
11. Implementing proper procedures for mounting and dismounting tire chains
12. Implementing proper procedures for extricating the vehicle from snow, sand, and mud by maneuvering or towing
13. Demonstrating the ability to adjust the rate of change in speed and direction to accommodate road conditions to avoid skidding
14. Describing procedures required to coordinate acceleration and shifting to overcome the resistance of snow, sand, and mud
15. Demonstrating the ability to perform brake checks on equipment before mountain driving
16. Restating procedures required to use the right lane or special truck lane going up grades
17. Restating procedures require placing the transmission in the appropriate gear for engine braking before starting the downgrade
18. Restating procedures required to use proper braking techniques and maintain proper engine braking before starting downgrades
19. Applying the proper use of a truck escape ramp when brakes fail on a downgrade
20. Restating proper procedure required for observing temperature gauge frequently when pulling heavy loads up long grades
21. Describing the effect of vehicle weight and speed upon braking and shifting ability on long downgrades
22. Identifying the meaning and use of percent of grade signs
23. Arranging to bring the truck to a stop in the shortest possible distance while maintaining directional control on a dry surface
24. Employing procedures to make an evasive turn off the roadway and return to the roadway while maintaining directional control
25. Employing procedures to bring the vehicle to a stop in the event of a brake failure
26. Employing procedures to maintain vehicle control during a blowout
27. Employing procedures to bring the truck to a stop in the shortest possible distance while maintaining

- directional control when operating on a slippery surface
28. Employing procedures to recover from vehicle skids induced by snow, ice, water, oil, sand, wet leaves or other slippery surfaces
 29. Employing procedures to counter-steer out of a skid in a way that will regain directional control and not produce another skid
 30. Employing procedure to operate brakes properly to provide maximum braking without losing control

Competency 12: The student will be able to apply concepts learned for obtaining a Commercial Driver's License (CDL) by:

1. Demonstrating competence in performing basic Commercial Vehicle Driving skills utilizing the CDL testing criteria
2. Demonstrating comprehension and knowledge of Commercial Vehicle Driving Laws as required to safely and legally operate a commercial vehicle

Learning Outcomes:

- Communicate effectively using listening, speaking, reading, and writing skills
- Solve problems using critical and creative thinking and scientific reasoning
- Formulate strategies to locate, evaluate, and apply information