MANITOBA PUBLIC INSURANCE

MANDATORY ENTRY-LEVEL TRAINING MANITOBA CLASS 1 (MELT) PROGRAM

Curriculum Framework

Introduction

The Province of Manitoba has introduced this mandatory minimum training requirement, which aligns with other jurisdictions in Canada that are in the process of implementing mandatory training programs. Previously, training was recommended but not required prior to obtaining a Class 1 licence.

The MELT course consists of 121.5 hours of standardized training that covers the essential knowledge and skills to safely operate a semi-trailer truck. This mandatory training will help ensure the safety of all road users.

Overview of Course Delivery Standard

Learning Environment

Training will take place in three learning environments: in-class, in-yard (around the vehicle) and in-cab (behind-the-wheel). Minimum instruction in these environments is:

- 40 hours classroom instruction
- 40.5 hours in-yard instruction
- 41 hours in-cab training

Total training – 121.5 hours

Prerequisites

Student must meet the following prerequisites:

- 18 years of age
- Class 5F licence (non-GDL)
- Air Brake Learners licence
- Class 1 Authorized Instruction

Support Materials

This course may use the following support materials:

- Trucking HR Canada
- MPI Air Brake Manual
- Professional Driver's Handbook
- Videos (links only available through instructors guides)

Instructional Materials

This course may use the following instructional materials:

- Classroom PowerPoints
- Instructor/Facilitator Guides
- Textbook
- Exercise books
- Competency Exams

Course Hours

The following minimum required instructional hours must be adhered to:

	Classroom (hours)	In-Yard (Around the Vehicle) (hours)	In-Cab (Behind- the-Wheel) (hours)	Total Training Duration (hours)
Class 1	33.0	38.5	41.0	112.5
Air brake	7.0	2 (including practical training and testing for a group of 4 students)		9.0 hours
Total	**40.0**	**40.5**	**41.0**	**121.5**

LESSON 1 – ORIENTATION TO TRUCKING

Classroom (hours)			In-Yard (hours)			In-Cab (hours)			Total Training Duration (hours)
Deliver	Apply	Assess	Deliver	Apply	Assess	Deliver	Apply	Assess	
1.0									1.0

Lesson Purpose and Outcomes:

This lesson is intended to introduce and familiarize students with the responsibilities of professional drivers, the various government regulations and standards, and the knowledge to outline the purpose and importance of vehicle related documentation.

Upon completing this lesson, students should be able to:

- Describe the requirements for employers and workers to comply with government regulations and standards
- Describe the essential skills of commercial vehicle operators
- Explain the purpose, fundamental structure and basic content of regulations that apply to commercial vehicle operations

Content Outline:

Lesson topics include:

- Complying with Government Regulations
    - Explain that drivers must comply with government regulations
    - Identify that standards may apply to worker obligations, rights and responsibilities; employment; health and safety; labour agreements, etc.
- Rights, Roles and Responsibilities as Professional Drivers
    - Explain that expectations of worker performance are usually defined through workplace practices, procedures and policies
    - Identify symbols and methods used to identify ‘dangerous goods’
    - Identify the roles and responsibilities as a professional driver

- Licencing
    - Identify the requirements and process to obtain a class 1 driver's licence
    - Explain the types of vehicles that a Class 1 driver's licence holder can operate
    - Identify some medical conditions that may prohibit a driver from holding specific types of commercial driver's licences
- Traffic Laws and Regulations
    - Describe the National Safety Code as a model for Canadian jurisdictions to regulate the safe operation of commercial vehicles
    - Describe requirements of written workplace documents for operating a commercial vehicle on roadways
    - Explain that regulations apply to the allowable weights and dimensions of commercial vehicles
    - Explain that regulations apply to the transport of materials and products that are defined as 'dangerous goods'
    - Explain that commercial vehicles may be restricted from operating on certain routes, or at particular times, due to their weight, licence, size or commodity being transported
- Incidents and Infractions
    - Explain that government agencies develop and retain records of driver incidents and infractions as well as motor carrier incidents and infractions
    - Explain that regulations apply to the mechanical condition of commercial vehicles

This lesson includes the following scenarios, procedures or activities:

- Individual Self-Study Pre-Reading
    - Manitoba Highway Traffic Act
- Classroom Group Discussion
    - Roles and Responsibilities

Learning Assessment Methods:

The following methods will be used to reinforce and evaluate the learning:

- Lesson Knowledge Check
- Review Questions
- Individual Activities
- Group Activities

LESSON 2 – VEHICLE COMPONENTS AND SYSTEMS

Classroom (hours)			In-Yard (hours)			In-Cab (hours)			Total Training Duration (hours)
Deliver	Apply	Assess	Deliver	Apply	Assess	Deliver	Apply	Assess	
0.5		0.5	0.5	0.5	0.5				2.5

Lesson Purpose and Outcomes:

This lesson is intended to provide students with the knowledge of the basic components and systems of trucks.

Upon completing this lesson, students should be able to:

- Operate commercial vehicle systems and controls

Content Outline:

Lesson topics include:

- Systems and Components
  - Describe the general layout and function of vehicle components and systems
  - Explain the differences between single, tandem, tridem and other multi-axle configurations
  - Explain the basic types, features and functions of tires and wheels
  - Explain the physical features and operation of common types of suspension
  - Describe how steering control is lost when tires skid during heavy brake use or when braking with poor traction
- Stability Control System
  - Describe how stability control systems operate and affect vehicle operation
- Anti-Lock Brake System
  - Describe the way that Anti-Lock Brake Systems (ABS) keep wheels from locking but may not shorten vehicle stopping distance

This lesson includes the following scenarios, procedures or activities:

- Individual Self-Study Pre-Reading
    - Component descriptions
- In-Yard Activities
    - Operate components and systems, including electrical, door controls and vehicles controls
    - Locate and operates all typical primary and secondary controls, gauges and instruments
    - Read the instrument panel indicators displaying important vehicle operation information, warnings and safety system status
    - Operate vehicle heating, defrosting and air-conditioning systems
    - Operate vehicle lamps and accessories
    - Operate windshield wiper and washer systems

Learning Assessment Methods:

The following methods will be used to reinforce and evaluate the learning:

- Lesson Knowledge Check
- Review Questions
- Individual Activities
- Group Activities

LESSON 3 - AIR BRAKE OPERATION

Classroom (hours)			In-Yard (hours)			In-Cab (hours)			Total Training Duration (hours)
Deliver	Apply	Assess	Deliver	Apply	Assess	Deliver	Apply	Assess	
5.0	1.5	0.5	0.5	1.0	0.5				9.0

Lesson Purpose and Outcomes:

This lesson is intended to educate students on the basic understanding of the air brake system.

Upon completing this lesson, students should be able to:

- Inspect and operate a commercial vehicle with air brakes

Content Outline:

Lesson topics include:

- Operating principles of air brakes
  - Explain the basic operating principles of air brakes
  - Explain the general function of supply, service, parking/emergency and trailer sub-systems and related components
- Components of air brakes
  - Explain the visual characteristics, external components and basic function of foundation brakes
  - Identify common brake types and recognizes many of the components
- Variables that affect vehicle braking
  - Explain how speed, weight, vehicle specifications and downhill grades affect vehicle braking
  - Describe conditions such as brake fade and brake lag
- Foundation brake operation and adjustment
  - Explain the importance of proper brake pushrod stroke
  - Use an effective method for measuring brake pushrod stroke

This lesson includes the following scenarios and procedures:

In-Yard Activities:

- Perform an effective pre-trip inspection that ensures proper operation of an air brake system
- Demonstrate the correct procedure for a single air unit
- Demonstrate the correct procedure for a combination air unit
- Identify and adjust air brakes correctly

Learning Assessment Methods:

The following methods will be used to reinforce and evaluate the learning:

- Lesson Knowledge Check
- Review Questions
- Individual Activities
- Group Activities

LESSON 4 – VEHICLE INSPECTIONS

Classroom (hours)			In-Yard (hours)			In-Cab (hours)			Total Training Duration (hours)
Deliver	Apply	Assess	Deliver	Apply	Assess	Deliver	Apply	Assess	
2.5			1.5	5.5	1.0				10.5

Lesson Purpose and Outcomes:

This lesson is intended to educate students on the process and importance of vehicle inspections.

Upon completing this lesson, students should be able to:

- Inspect and maintain commercial vehicles
- Identify the general components of a Class 1 vehicle to conduct daily inspections
- Explain the functions of Class 1 vehicle components listed in Manitoba Schedule A, so that they can conduct pre- and post-trip inspections

Content Outline:

Lesson topics include:

- Driver inspection requirements
    - Explain that every commercial vehicle must meet prescribed performance standards while operating on a highway
    - Inspect the condition of vehicles and operating components
    - Explain regulations related to emergency equipment
- Daily inspections
    - Conduct daily inspections and identify each of the 75 minor and major defects listed in Manitoba Schedule A
    - Conduct regular pre-trip, en-route and post-trip vehicle inspections
- Complete and sign written or electronic daily inspection reports that declare the vehicle's condition

- Using Manitoba Schedule A checklist to ensure that defects, or unsafe conditions are identified
- Monitor vehicle condition on a continuous basis, according to NSC 13 Schedule 1, while driving or otherwise being responsible for the vehicle, and updates the inspection report as required

This lesson includes the following scenarios, procedures or activities:

- In-Yard
  - Demonstrate an understanding of the correct under-the-hood procedure
  - Demonstrate an understanding of correct engine start-up and interior inspection procedures
  - Demonstrate an understanding of the correct general inspection of the vehicle exterior
  - Demonstrate the proper use of the inspection checklist
  - Use PPE during maintenance and inspection activities
  - Demonstrate the completion of required documentation

Learning Assessment Methods:

The following methods will be used to reinforce and evaluate the learning:

- Lesson Knowledge Check
- Review Questions
- Individual Activities
- Group Activities

LESSON 5 – BASIC DRIVING TECHNIQUES

Classroom (hours)			In-Yard (hours)			In-Cab (hours)			Total Training Duration (hours)
Deliver	Apply	Assess	Deliver	Apply	Assess	Deliver	Apply	Assess	
8.0		0.5	0.5	0.5		0.5	19.0	0.5	29.5

Lesson Purpose and Outcomes:

This lesson is intended to provide students with the knowledge of the steps that should be taken prior to driving a commercial vehicle and provide an opportunity for students to practice these steps.

Upon completing this lesson, students should be able to:

- Prepare and start to drive a commercial vehicle
- Comply with operational regulations that apply to commercial vehicles
- Operate a commercial vehicle in a safe manner
- Perform basic driving maneuvers

Content Outline:

Lesson topics include:

- Start-Up and Warm-Up Procedures
  - Explain the importance of proper start-up and/or warm-up procedures
  - Describe the steps involved in getting seated and leaving the driver's seat
- Fuel Efficient Driving
  - Describe smart driving practices for fuel efficiency
- Trip Planning
  - Describe the importance of journey management in ensuring a safe and low-stress trip
  - Explain the need to know the height of their vehicle before driving on any road
  - Explain the need to know the approximate empty and loaded weight of their vehicle before driving on any road
  - Describe the times, days and/or weeks when commercial vehicle operations are restricted in certain urban areas

- Awareness on the Road
    - Explain the location and proper use of truck emergency runaway lanes
    - Describe the considerations of crossing at railroad crossings
    - Explain the importance of being fully alert when driving
- Tractor-Trailer Maneuvers
    - Explain the importance of following all manoeuvering procedures in order to ensure safety

This lesson includes the following scenarios, procedures or activities:

- In-Yard Activities
    - Confirm every time before leaving the driver's seat that the vehicle is secured by the vehicle's parking brake, wheel chocks or suitable blocks
    - Enter and exit the cab or the vehicle cargo area maintaining 3-point contact and recognizes the risks of improperly climbing onto or jumping from equipment.
    - Adjust the driver's seat to the correct position before driving
    - Inspect, wear and properly adjusts seatbelts before driving
    - Scan all controls and instruments before driving
    - Monitor the engine, instrument panel and indicator lamps
    - Listen for normal vehicle sounds while starting the vehicle's engine and avoids unnecessary idling
    - Take extra care when cross railroad tracks and before crossing, determines the space available for vehicles
    - Watch for potential hazards of unmarked overhead obstructions
    - Watch for snow build-up, debris or road construction that can change vehicle height, weight or clearances
    - Identify and read all road signs indicating weight capacity of roadways or bridges
    - Drive a commercial vehicle in a safe manner, including through curves, changing lanes, crossing intersections, turning at intersections, entering a highway or expressway, exiting a highway or expressway

Learning Assessment Methods:

The following methods will be used to reinforce and evaluate the learning:

- Lesson Knowledge Check
- Review Questions
- Individual Activities
- Group Activities

MID-TERM COMPETENCY EXAM

Classroom (hours)			In-Yard (hours)			In-Cab (hours)			Total Training Duration (hours)
Deliver	Apply	Assess	Deliver	Apply	Assess	Deliver	Apply	Assess	
		1.0							1.0

Learning Assessment:

- A passing grade in the mid-term competency exam is required before continuing in the training program.

LESSON 6 – PROFESSIONAL DRIVING HABITS

Classroom (hours)			In-Yard (hours)			In-Cab (hours)			Total Training Duration (hours)
Deliver	Apply	Assess	Deliver	Apply	Assess	Deliver	Apply	Assess	
6.5		0.5		0.5		0.5	20.0	0.5	28.5

Lesson Purpose and Outcomes:

This lesson is intended to provide students with the knowledge of the concept of defensive driving and to introduce fuel efficiency concepts.

Upon completing this lesson, students should be able to:

- Apply defensive driving techniques
- Recognize common situations that lead to collisions.
- Understand the habits that are key to preventing collisions
- Apply fuel efficient driving habits

Content Outline:

Lesson topics include:

- Importance of Defensive Driving
    - Describe basic defensive driving principles
- Driver's "Duty of Care"
    - Explain their 'duty of care' to proactively protect other road users from harm
    - Explain the responsibility of a driver to share their workplace with the public and how the additional size and weight of their vehicle may be perceived by other road users
- Basic Collision Prevention
    - Describe methods to practice to avoid collisions
- Collision Avoidance
    - Recognize common situations that lead to collisions

- Emergency Driving Techniques
    - Explain the appropriate responses to emergency situations
- Fueling and Fuel Efficiency
    - Explain the importance of fuel efficient driving methods

This lesson includes the following scenarios, procedures or activities:

- In-Yard Activities
    - Scan mirrors, instruments and gauges regularly and systematically
    - Minimize blind spots caused by mirrors and where motorcycles and bicycles might be hidden
    - Explain the visual cues and other signs of potentially hazardous traffic situations
    - Maintain an appropriate following distance in all driving conditions
    - Avoid sources of distraction while driving
    - Maintain vehicle speed that is appropriate for road and traffic conditions and adheres to regulations
    - Determine the time and considerations needed to bring a vehicle to a full stop
    - Demonstrate understanding of emergency driving techniques
    - Accelerate at a smooth and gradual rate
    - Anticipate when most changes in speed, gear selection and surrounding space will be necessary
- Classroom Activities
    - Road Conditions Scenario
    - Impaired Driving Self-Exploration Activity
    - Driver Fatigue Group Discussion
    - Collision Avoidance Role Playing

Learning Assessment Methods:

The following methods will be used to reinforce and evaluate the learning:

- Lesson Knowledge Check
- Review Questions
- Individual Activities
- Group Activities

LESSON 7 – BACKING AND COUPLING

Classroom (hours)			In-Yard (hours)			In-Cab (hours)			Total Training Duration (hours)
Deliver	Apply	Assess	Deliver	Apply	Assess	Deliver	Apply	Assess	
3.5			3.0	20.0	1.0				27.5

Lesson Purpose and Outcomes:

This lesson is intended to provide students with the knowledge of proper backing procedures for the different types of reversing: straight line, left and right.

Upon completing this lesson, students should be able to:

- Understand the theory behind the different reversing procedures
- Demonstrate backing and parking manoeuvres with a tractor-trailer
- Demonstrate tractor-trailer coupling and uncoupling tasks

Content Outline:

Lesson topics include:

- Backing
  - Describe the importance of following manoeuvre procedures
  - Describe the importance of attentiveness and care when reversing
- Straight Line Reversing
  - Explain the correct straight line reversing procedures
- Loading Dock Reversing Procedures
  - Explain the correct loading dock reversing to the left procedures
  - Explain the correct loading dock reversing to the blind side procedures
- Offset Reversing Procedures
  - Explain the correct offset reversing to a left spot procedures
  - Explain the correct offset reversing to a right spot procedures
- Parallel Manoeuvres
  - Explain the correct parallel procedures

- Coupling and Uncoupling a Tractor-trailer
    - Describe the factors that influence successful coupling and uncoupling of a tractor-trailer
    - Explain the procedure for coupling and uncoupling a tractor-trailer
    - Explain the procedure for coupling and uncoupling pintle hitch attachments

This lesson includes the following scenarios, procedures or activities:

- Classroom Activities
    - Manoeuvre simulations and demonstration videos
- In-Cab Activities
    - Perform straight-line backing manoeuvres with a tractor-trailer in a safe manner
    - Perform offset backing manoeuvres with a tractor-trailer in a safe manner
    - Perform loading dock manoeuvres with a tractor-trailer in a safe manner
- In-Yard Activities
    - Connect the trailer from the tractor in a safe manner
    - Detach the trailer from the tractor in a safe manner

Learning Assessment Methods:

The following methods will be used to reinforce and evaluate the learning:

- Lesson Knowledge Check
- Review Questions
- Individual Activities
- Group Activities

LESSON 8 – HOURS OF SERVICE AND TRIP PLANNING

Classroom (hours)			In-Yard (hours)			In-Cab (hours)			Total Training Duration (hours)
Deliver	Apply	Assess	Deliver	Apply	Assess	Deliver	Apply	Assess	
3.0		0.5							3.5

Lesson Purpose and Outcomes:

This lesson is intended to educate students on legislation that regulates commercial drivers' hours of work, how to record and maintain a daily log as well as route preparation and safety.

Upon completing this lesson, students should be able to:

- Record and maintain a log of their hours of driving
- Explain hours of service regulations
- Demonstrate an understanding of driver and owner responsibilities regarding hours of service
- Complete basic mathematical calculations required for commercial vehicle operation
- Plan ahead, anticipate problems and be familiar with regulations related to emergency equipment

Content Outline:

Lesson topics include:

- Hours of service regulations
    - Explain that the Hours of Service regulations apply to operating any commercial vehicle
    - Explain that driving a commercial vehicle is prohibited after accumulating 13 hours of driving in a day
- Definition of On and Off-duty
    - Explain that they are on-duty when driving, in care and control of a vehicle, and performing other types of work
    - Explain that in normal conditions they must take 10 hours off-duty each day, and have one 24-hour period off-duty within the previous 14 days

- Explain that driving a commercial vehicle is prohibited after being on-duty for 14 hours in a day
- Explain that a work shift begins when they return to on-duty after being off-duty for at least 8 consecutive hours
- Explain that a new cycle can start only after taking the required minimum number of hours off-duty, and this period is called a "reset"
- Explain the difference between Cycle 1 and Cycle 2

- Information required, and how to fill out a log book
  - Maintains a complete, legible, and accurate driver's daily log (in a written or electronic format) that fully complies with the regulations
  - Explain that the "home terminal" is determined by the employer and is normally associated with the location where a worker begins to drive a commercial vehicle
- Trip Planning
  - Identify and describe the basic purpose, importance and proper condition of the vehicle related documents
  - Identify special requirements relating to a vehicle, load, routing or commodity
  - Identify sources of reliable information about weather and road conditions
  - Estimate fuel consumption rates
  - Determine allowable axle weights, basic vehicle dimension and axle spacing requirements
  - Complete calculations to identify compliance with vehicle requirements
  - Explain the training required by law to perform duties properly and safely

This lesson includes the following scenarios, procedures or activities:

- Classroom and In-Yard
  - Demonstrate trip planning using planning tools with provided scenarios
  - Complete a log book (paper and ELD) using the four-duty statuses

Learning Assessment Methods:

The following methods will be used to reinforce and evaluate the learning:

- Lesson Knowledge Check
- Review Questions
- Individual Activities
- Group Activities

LESSON 9 – CARGO SECUREMENT AND LOSS PREVENTION

Classroom (hours)			In-Yard (hours)			In-Cab (hours)			Total Training Duration (hours)
Deliver	Apply	Assess	Deliver	Apply	Assess	Deliver	Apply	Assess	
2.0		0.5	0.5	0.5					3.5

Lesson Purpose and Outcomes:

This lesson is intended to educate students on proper cargo securement procedures.

Upon completing this lesson, students should be able to:

- Comply with basic cargo securement laws and requirements
- Safely distribute cargo weight during loading

Content Outline:

Lesson topics include:

- Cargo securement, and the regulations surrounding it
  - Explain that every commercial vehicle transporting cargo must have the cargo secured according to the regulations
  - Explain that the requirement to secure cargo includes any material, equipment or other loose article carried on the vehicle, including dunnage, blocking, tarps, tools, equipment, spare materials, etc.
  - Explain that all cargo must be secured so that it cannot fall off the vehicle, or in any way be lost
- Tie-downs and working load limits
  - Explain that articles of cargo are generally secured against the vehicle's structure and by using devices such as tie-downs, blocking and bracing
  - Describe methods for rating the strength of devices used to secure cargo and recognize that most cargo requires a minimum number of tie-downs with particular working load limit ratings

- Explain that tie-down ratings are determined by manufacturers, are expressed as a "working load limit" (WLL), and marked on the tie-downs
- Describe how the combined strength of individual tie-downs used together to restrain cargo is called the "aggregate working load limit"

- Cargo placement and restraint
  - Explain that articles of cargo must be secured to prevent forward, rearward and sideways movement, and in some cases must also be secured to prevent upward movement
  - Explain that all cargo must be secured so that it cannot shift in a way that can affect a vehicle's stability or maneuverability in a negative way
  - Explain that cargo must be loaded in such a way that it does not interfere with the driver's ability to drive the vehicle safely, and does not block vehicle entry or exit

This lesson includes the following scenarios, procedures or activities:

- In-Yard activity
  - Determine the aggregate (combined) working load limits
  - Determine the minimum number of tie-downs to secure a cargo and tie it down
  - Determine the proper placement of cargo

Learning Assessment Methods:

The following methods will be used to reinforce and evaluate the learning:

- Lesson Knowledge Check
- Review Questions
- Individual Activities
- Group Activities

LESSON 10 - DANGEROUS GOODS AND EMERGENCY SITUATIONS

Classroom (hours)			In-Yard (hours)			In-Cab (hours)			Total Training Duration (hours)
Deliver	Apply	Assess	Deliver	Apply	Assess	Deliver	Apply	Assess	
1.0		0.5	0.5	0.5					2.5

Lesson Purpose and Outcomes:

This lesson is intended to educate students on the proper procedures to follow in the event of an emergency or other incident.

Upon completing this lesson, students should be able to:

- Assess and adapt to dangerous conditions
- React in a professional manner to emergency incidents (accidents, fire, etc.)

Content Outline:

Lesson topics include:

- Reporting incidents to the proper authorities
    - Describe the typical kinds of incidents that must be reported to employers, police and other reporting agencies
    - Explain the importance of collision reporting
- Following proper procedures in the event of a collision, fire or injuries
    - Describe the importance of following workplace practices, procedures and policies when engaging emergency support such as: towing and recovery service, vehicle repair, breakdown, tire repair, etc.
- How to handle mechanical breakdowns
- Visual cues and other signs of potentially hazardous traffic situations
    - Watch for wildlife or livestock which can enter the space around a vehicle, particularly on routes known for collisions involving animals
- Proper use of warning devices and other emergency equipment in compliance with regulations

This lesson includes the following scenarios, procedures or activities:

Role-Play Activity:

- Organize bystanders to assist in controlling the collision scene

In-Yard Activities:

- Demonstrate the correct procedure when using an approved warning device
- Demonstrate the correct procedure when using fire extinguishers

Learning Assessment Methods:

The following methods will be used to reinforce and evaluate the learning:

- Lesson Knowledge Check
- Review Questions
- Individual Activities
- Group Activities

FINAL COMPETENCY EXAM

Classroom (hours)			In-Yard (hours)			In-Cab (hours)			Total Training Duration (hours)
Deliver	Apply	Assess	Deliver	Apply	Assess	Deliver	Apply	Assess	
		1.0			1.5				2.5

Learning Assessment:

- Scoring on the final exam is used towards their over all score in the MELT program.
- The final in-yard competency assessment is the formal MPI Practical Assessment, administered by Driver Testing, which includes in-yard and in-cab activities.