

SD Classroom Content Standards

C 1.0 Classroom Standard One: Understanding Program Goals

The student will:

- 1.1 become aware of program goals.
- 1.2 recognize and comply with the rules of the road based on national, state, and local requirements.
- 1.3 explain vehicle operating spaces needed for managed-risk operation.
- 1.4 understand driver readiness.
- 1.5 describe the value of occupant protection as a crash prevention and loss prevention tool for managed-risk driver performance.
- 1.6 identify and practice the procedures for starting a vehicle.

C 1.1 Student will become aware of program goals.

- 1.1.1 Make introductions with instructor
- 1.1.2 Understand how the driver education program will be conducted
- 1.1.3 Identify the Graduated Driver Licensing (GDL) requirements and responsibilities
- 1.1.4 Understand course requirements, policy, rules, communication, and documentation for successful completion
- 1.1.5 Identify student classroom and in car expectations
- 1.1.6 Identify in-car driving plan

C 1.2 Student will recognize and comply with the rules of the road based on state and local requirements.

- 1.2.1 Signs, signals, and markings
- 1.2.2 Legal stops and restricted speeds
- 1.2.3 Yielding right of way
- 1.2.4 Pedestrian and bicyclist
- 1.2.5 Speed regulations
- 1.2.6 Laws related to impaired driving
- 1.2.7 South Dakota Driver Manual references

C 1.3 Student will explain vehicle operating spaces needed for managed-risk operation.

- 1.3.1 visual limitations to the front, rear, and sides of the vehicle
- 1.3.2 length and width of the vehicle's blind zones
- 1.3.3 size of vehicle tire contact patches
- 1.3.4 Adjustment of rear and side view mirror settings

C 1.4 Student will understand driver readiness.

- 1.4.1 Understand mental and physical well-being
- 1.4.2 Manage emotions
- 1.4.3 Protect others by using provided safety equipment

- 1.4.4 Pre-entry checks
 - a. Approach vehicle with key/key fob and be alert for other pedestrians and drivers
 - b. Check outside and inside the vehicle prior to entry for a variety of concerns (e.g., broken glass, fluid leaks, objects, children, pets, snow build up, tires)
- 1.4.5 Lock doors after entry
- 1.4.6 Make vehicle adjustments
 - a. Head restraints
 - b. Seat
 - c. Rear and side view mirrors
 - d. Safety restraints
 - e. Steering wheel
 - f. Pedals
 - g. Adaptive systems (e.g., steering mechanism or hand controls), if necessary
- 1.4.7 Understand gauges, electronics, and accessories
- 1.4.8 Alert and warning symbols and locations
- 1.4.9 Parking brake location and use
- 1.4.10 Vehicle control devices
- 1.4.11 Safety, communication, comfort, and convenience devices
- 1.4.12 Alerts to vehicle safety technology system malfunctions
- 1.4.13 Worn or dirty sensors/devices
- 1.4.14 Purpose and use of vehicle's owner's manual
 - a. Reference routine maintenance
- 1.4.15 Routine vehicle checks
 - a. Oil
 - b. Wiper fluid
 - c. other fluids
- 1.4.16 Tire safety and maintenance
 - a. Tire pressure
 - b. Tread depth
 - c. Tire wear and damage

C 1.5 Student will describe the value of occupant protection as a crash prevention and loss prevention tool for managed-risk driver performance.

- 1.5.1 Occupant protection knowledge
 - a. Active restraints
 - b. Passive restraints
 - c. Active passive integration
 - d. Frontal crash protection
 - e. Side impact protection
 - f. Rear impact protection
- 1.5.2 Occupant protection use and misuse
 - a. Myths
 - b. Lap belt adjustments
 - c. Shoulder restraint adjustments
 - d. Legal requirements

- 1.5.3 Protecting children
 - a. Age and seat requirements
 - b. Weight and seat requirements
 - c. Proper seat placement
 - d. Legal requirements

C 1.6 Student will identify and practice the procedures for starting a vehicle.

- 1.6.1 Press the brake
- 1.6.2 Select appropriate gear for starting vehicle
- 1.6.3 Recognize alert lights and symbols for safety accessories
- 1.6.4 Operate ignition starting device
- 1.6.5 Select and operate appropriate vehicle accessories
- 1.6.6 Recognize warning lights and symbols for engine or system accessories

C 2.0 Classroom Standard Two: Understanding Vision and Vehicle Controls

The student will:

- 2.1 explain and apply basic concepts related to vision and perception to operate a vehicle.
- 2.2 understand basic braking and acceleration control techniques needed to operate a vehicle.
- 2.3 explain and apply the four basic techniques related to steering control needed to operate a vehicle.
- 2.4 identify and practice use of communication techniques, courtesy, and respect in regard to other roadway users.
- 2.5 identify methods for stopping a vehicle.
- 2.6 identify a procedure for securing a vehicle.
- 2.7 identify and develop vehicle reference points to know where the vehicle is positioned to the roadway.

C 2.1 Student will explain and apply basic concepts related to vision and perception to operate a vehicle.

- 2.1.1 Identify vision and mental perception requirements:
 - a. Three basic visual fields (central, fringe or focal, peripheral) and how they are used in the driving task
 - b. Compare visual skills to mental perception
 - c. Techniques to improve visual skills
 - d. Techniques to improve mental perception of traffic events (e.g., SIPDE, IPDE)
 - e. Overcoming driver visual deficiencies
- 2.1.2 identify open space prior to moving from brake to accelerator
- 2.1.3 Identify visual target
- 2.1.4 Follow path of travel to target
- 2.1.5 Maintain an open line of sight
- 2.1.6 Develop searching skills based on dividing visual and mental attention between two or more tasks

C 2.2 Student will understand basic braking and acceleration control techniques needed to operate a vehicle.

- 2.2.1 Recognize how speed affects vehicle direction
- 2.2.2 Place the vehicle into motion smoothly
 - a. Changing vehicle load—side to side (vehicle roll)
 - i. Steering movements
 - ii. Brake and steering combinations
 - b. Changing vehicle load—front to rear (vehicle pitch)
 - i. Releasing brake suddenly
 - ii. Covering or applying brake downhill
 - iii. Light accelerator pressure
 - iv. Progressive accelerator pressure
 - v. Thrust accelerator pressure
 - vi. Excessive acceleration
 - c. Changing vehicle load—rear to front (vehicle pitch)
 - i. Releasing accelerator
 - ii. Controlled braking (Squeeze on)
 - iii. Threshold braking (Firm pressure prior to lockup)
 - iv. Trailing brake (Squeeze off)
 - v. Excessive deceleration affects weight
 - d. Changing vehicle load—pivot around center of gravity (vehicle yaw)
 - i. Sudden braking inputs create traction loss
 - ii. Sudden acceleration inputs create traction loss
 - iii. Sudden steering inputs create traction loss
- 2.2.3 Identify how safety belts maintain seating position and keep the driver in-contact with the steering wheel
- 2.2.4 Identify how the footrest/dead pedal allows driver to feel roll, pitch, and yaw characteristics

C 2.3 Student will explain and apply the four basic techniques related to steering control needed to operate a vehicle.

- 2.3.1 Hand-to-hand steering (Push/Pull)
 - a. Hand position (9-3, 8-4)
 - b. Precision maneuvers
 - c. Steering through curves
 - d. Intersection turning
 - e. Lane change
- 2.3.2 Hand-over-hand steering
 - a. Hand position (9-3, 8-4)
 - b. Left or right side of wheel used
 - c. Speed under 15 mph
 - d. Tight turning efforts (alley way, parking lots, etc.)
 - e. Perpendicular and parallel parking
- 2.3.3 Evasive steering

- a. Maximum steering inputs are 180 degrees
 - i. Input to move front of vehicle
 - ii. Input to move rear of vehicle
 - iii. Input to center vehicle in lane
- 2.3.4 One-hand steering
 - a. Hand Position (12)
 - i. Backing vehicle
 - ii. Hand moves in direction of intended vehicle movement

C 2.4 Student will identify and practice use of communication techniques, courtesy and respect in regard to other roadway users.

2.4.1 Identify Technique

- a. Use of turn signal before turning right or left
- b. Use of turn signal to move to another lateral position
- c. Use of headlights on at all times to increase visibility to others
- d. Use of horn to make others aware of your presence
- e. Tap of brake lights to warn rear traffic of a slowdown or stop in the traffic flow
- f. Use of vehicle speed and lane position to communicate the driver's upcoming action
- g. Use of hazard lights to warn drivers of a danger ahead

2.4.2 Identify Timing

- a. Engage turn signal for a minimum of five seconds prior to moving to provide time for the communication to be sent, received, and acted upon
- b. Communicate early for control of a safe path of travel

2.4.3 Identify Upcoming Action

- a. Identify that messages are acknowledged by others

C 2.5 Student will identify methods for stopping a vehicle.

- 2.5.1 Search effectively ahead of the vehicle to determine braking needs
- 2.5.2 Check rear zone/space before, during and after braking actions
- 2.5.3 Use controlled braking efficiently with heel of foot on floorboard
- 2.5.4 Apply a firm squeezing braking force at the beginning of the braking process
- 2.5.5 Bring the vehicle to a smooth stop
- 2.5.6 Recognize that braking action affects vehicle body pitch toward the front
- 2.5.7 Utilize trail braking during last two seconds of braking to ease pitch of vehicle
- 2.5.8 Effective use of ABS braking and other vehicle safety technologies.
- 2.5.9 Effective braking for a vehicle not equipped with ABS

C 2.6 Student will identify a procedure for securing a vehicle.

- 2.6.1 Stop the vehicle in a safe and legal location and press on the brake.
- 2.6.2 Shift into appropriate gear before releasing brake.
- 2.6.3 Check the rear seat for children or pets.
- 2.6.4 Use techniques to prevent opening a door into the path of an approaching road user.
- 2.6.5 Lock doors and/or secure available alarm system.

C 2.7 Student will identify and develop vehicle reference points to know where the vehicle is positioned to the roadway.

- 2.7.1 Use Reference Points to Identify Lane Positions
 - a. Center of lane or lane position 1
 - b. Left side of lane or lane position 2
 - c. Right side of lane or lane position 3
- 2.7.2 Identify Right Side Vehicle References
 - a. Determine when the vehicle is positioned within 3-6 inches of the curb or a lane line (right side of lane or lane position 3)
 - b. Determine when the vehicle is positioned within 2-3 feet of the curb or a lane line
- 2.7.3 Identify Left Side Vehicle References
 - a. Determine when the vehicle is positioned within 3-6 inches of the curb or a lane line (left side of lane or lane position 2)
- 2.7.4 Identify Front Vehicle References
 - a. Determine when the front bumper is positioned even with the stop line or curb edge
- 2.7.5 Identify Front Turning Point of Vehicle
 - a. Determine where the front is positioned for turning left
 - b. Determine where the front is positioned for turning right
- 2.7.6 Identify Rear Turning Point of Vehicle
 - a. Determine where the rear is positioned for backing left
 - b. Determine where the rear is positioned for backing right
- 2.7.7 Visualization of Intended Travel Path
 - a. Identify Target Area
 - i. Identify the traffic problems and elements in and near the target area
 - ii. Locate your target area, evaluate the line of sight or path of travel conditions, and determine best approach speed and lane position

C 3.0 Classroom Standard Three: Introducing Traffic Entry Skills

The student will:

- 3.1. recognize and understand roadway conditions, signs, signals, and pavement markings.
- 3.2. understand procedures and processes for basic vehicle maneuvering tasks.

C 3.1 Student will recognize and understand roadway conditions, signs, signals, and pavement markings.

- 3.1.1 Identify roadway characteristics
 - a. Recognize intersection types
 - i. Uncontrolled
 - ii. Controlled by sign or signal
 - iii. Railroad crossing
 - iv. T- and Y-style
 - v. Traffic circle

- vi. Round-about
 - vii. Diverging diamond
 - b. Recognize traffic calming devices (e.g., speed bumps)
 - c. Recognize surface conditions and traction potential
 - d. Recognize slope and grade
 - e. Recognize highway conditions
 - i. Roadway
 - ii. Shoulder
 - iii. Off-road areas
 - f. Recognize lane controls
- 3.1.2 Identify signs, signals, and pavement markings
 - a. Recognize Meaning
 - i. Shapes
 - ii. Color
 - iii. Symbols
 - b. Recognize locations
 - c. Recognize legal controls
 - i. Stop
 - ii. Yield
 - iii. Traffic Flow
 - iv. Regulations
- 3.1.3 Identify pavement markings/symbols
 - a. Recognize meaning
 - i. Color
 - Yellow
 - White
 - Red (e.g., fire lane)
 - Blue (e.g., handicap parking)
 - Green (bicycle markings)
 - ii. Pavement Markings
 - Dashed
 - Solid
 - Striped
 - Curb markings
- 3.1.4 Recognize location
 - a. Recognize legal controls
 - i. Passing
 - ii. Crosswalk
 - iii. Shared left turn lane
 - iv. Dedicated turn lane

C 3.2 Student will understand procedures and processes for basic vehicle maneuvering tasks.

- 3.2.1 Identify and apply procedural steps
 - a. Intersection approach
 - i. See and respond to open/closed space/zones

- ii. Check and respond to rear space/zone conditions
- iii. Establish and maintain proper lane usage and speed control
- iv. Search left, front, and right spaces/zones for line of sight or path of travel changes
- v. Find open spaces/zones before entering
- vi. Use legal stop with appropriate spacing when applicable
- vii. Pulling forward to get vision
- viii. Stopping behind a stop line with enough space for a large truck to turn
- ix. Adjust speed to arrive at a green light
- b. Moving forward
- c. Precision left turns
- d. Precision right turns
- e. Estimate time needed to cross, turn left, or turn right
- f. Moving to/from the curb
- g. Backing
 - i. Straight
 - ii. Around corner
- h. Lane change
- 3.2.2 Identify and apply driver information processing
- 3.2.3 Introduction of the sequential steps for problem solving (i.e., SIPDE, IPDE)
 - a. Understand conditions for searching and identifying
 - i. Changes to path of travel
 - ii. Changes to the line of sight
 - iii. Changes in road surface and condition
 - b. Understand situations for predicting
 - i. Alternative paths of travel
 - ii. Appropriate position
 - iii. Appropriate speed
 - iv. Appropriate communication
 - c. Understand skills needed to decide and execute decisions
 - i. Speed changes
 - ii. Position changes
 - iii. Communication needs

C 4.0 Classroom Standard Four: Introducing Negotiating Curves and Hills

The student will:

- 4.1. discover how visual skills and mental perception lead to making managed risk driving decisions in curves, hills, and mountains.

C 4.1 Student will discover how visual skills and mental perception lead to making managed risk driving decisions in curves, hills, and mountains.

- 4.1.1 Know how to judge space in seconds

- 4.1.2 Search into curves and over hills and mountains
 - a. Search the line of sight and path of travel through the curve or over the hill crest for closed or changing conditions
 - b. Evaluate the line of sight or path of travel for appropriate speed and lane position adjustments, before entering a curve or a hill crest
 - c. Determine travel speed based upon driver, vehicle, legal, roadway, and environmental limitations to manage risk
 - d. Select appropriate gear for mountain driving

C 5.0 Classroom Standard Five: Space Management and Vehicle Control Skills in Various Risk Environments

The student will:

- 5.1. review and apply the principles of a sequential steps for problem solving (i.e., SIPDE, IPDE) to managed-risk vehicle operation making appropriate communication, speed and lane position adjustments.
- 5.2. demonstrate and practice basic vehicle maneuvers for managed-risk operation.
- 5.3. identify procedures and practice techniques for making managed-risk lane changes in a variety of lane change situations.
- 5.4. will identify procedures managed-risk techniques for perpendicular, angle, parallel, and hill parking.
- 5.5. identify how certain risk factors affect space management.
- 5.6. apply the problem-solving process (e.g., SIPDE, IPDE) in various traffic conditions/environments.
- 5.7. identify and comply with gap selection, communication, speed control, and lane selection during passing situations.

C 5.1 Student will review and apply the principles of sequential steps for problem solving (i.e., SIPDE, IPDE) to managed-risk vehicle operation making appropriate communication, speed and lane position adjustments.

- 5.1.1 Use an orderly visual search process
- 5.1.2 Proper following distance
- 5.1.3 Judging space in seconds
- 5.1.4 Use rear and side view mirrors effectively
- 5.1.5 Maintain separation to sides
- 5.1.6 Communicate presence/intentions
- 5.1.7 Practice verbalizing problem solving process

C 5.2 Student will demonstrate and practice basic vehicle maneuvers for managed-risk operation.

- 5.2.1 Identify procedures for backing in a straight line
- 5.2.2 Identify procedures for backing around a corner
- 5.2.3 Determine lowest risk turnabout options
- 5.2.4 Identify procedures for turnabout options

- a. Going around the block
- b. 2-point turn on left and right
- c. U-turns
- d. 3-point turns

C 5.3 Student will identify procedures and practice techniques for making managed-risk lane changes in a variety of lane change situations.

- 5.3.1 Identify space management requirements
 - a. Determine the need for a lane change
 - b. Identify divided attention conditions
 - c. Identify communication techniques
 - d. Determine speed and lane position adjustments
- 5.3.2 Identify procedures and practice lane change techniques
 - a. Evaluate side space/zones with side view mirror
 - b. Move to the left side or right side of lane for lane change
 - c. Signal
 - d. Check blind spot
 - e. Decide best lane position for conditions
- 5.3.3 Lane Position
- 5.3.4 Speed control
- 5.3.5 Steering control
- 5.3.6 Identify vehicle blind zones and truck no zones

C 5.4 Student will identify procedures managed-risk techniques for perpendicular, angle, parallel, and hill parking.

- 5.4.1 Entering and exiting a parking space
 - a. Space management applications
 - b. Dividing attention between tasks
 - c. Communication
 - d. Identify procedures and practice parking techniques
 - i. Positioning/reference points
 - ii. Vision control
 - iii. Speed control
 - iv. Steering control
 - v. Forward
 - vi. Reverse

C 5.5 Student will identify how certain risk factors affect space management.

- 5.5.1 Visibility
- 5.5.2 Driver condition
- 5.5.3 Road condition
- 5.5.4 Vehicle condition
- 5.5.5 Other roadway users
- 5.5.6 Traffic flow
- 5.5.7 Speed differentials

C 5.6 Student will apply the problem-solving process (e.g., SIPDE, IPDE) in various traffic conditions/environments, including but not limited to:

- 5.6.1 Residential
- 5.6.2 Urban
- 5.6.3 Rural
- 5.6.4 Interstate

C 5.7 Student will identify and comply with gap selection, communication, speed control, and lane selection during passing situations.

- 5.7.1 Procedures
- 5.7.2 Limited access highway advantages/disadvantages
- 5.7.3 Passing/overtaking vehicles
 - a. Two lane roads
 - b. Multiple lane roads
- 5.7.4 Space management
- 5.7.5 Divided attention tasks
 - a. Identify tailgater problems for speed and lane position adjustments
 - b. Evaluate gain versus risk prior to attempting passing maneuver
 - c. Check all zones for line of sight and/or path of travel conditions
- 5.7.6 Vehicle blind zones and truck no zones
- 5.7.7 Communication
- 5.7.8 Speed control
- 5.7.9 Steering control
- 5.7.10 Abort considerations
- 5.7.11 Passing/being passed considerations

C 6.0 Classroom Standard Six: Factors Affecting Driver Performance

The student will:

- 6.1. identify the high-risk effects of alcohol, marijuana, and other drugs, including prescription drugs on personality and driver performance.
- 6.2. recognize legal responsibility to not use alcohol, marijuana and other drugs that affect the ability to operate a vehicle safely and develop strategies for alternative means of safe transportation.
- 6.3. explain the need for driver fitness to aid managed-risk driver performance and recognize that external and internal vehicle distractions, fatigue, and aggression may result in injury and physical damage crashes.

C 6.1 Student will identify the high-risk effects of alcohol, marijuana, and other drugs, including prescription drugs on personality and driver performance.

- 6.1.1 Recognizing the effects of alcohol, marijuana, and other drugs, including prescription drugs
- 6.1.2 Risk factors for alcohol, marijuana, and other drugs, including prescription drug use/abuse
- 6.1.3 Limiting risk of driving/riding with others that are intoxicated

- 6.1.4 The effect of alcohol, marijuana, and other drugs, including prescription drugs on driver performance
- 6.1.5 Advertisement/peer pressure to use alcohol, marijuana, and other drugs
- 6.1.6 Alcohol, marijuana, and other drug use/abuse rules and regulations
 - a. Laws concerning alcohol, marijuana, and other drug abuse
 - b. Zero tolerance rules and regulations
 - c. Implied consent
 - d. Penalties associated with alcohol, marijuana, and other drug abuse

C 6.2 Student will recognize legal responsibility to not use alcohol, marijuana and other drugs that affect the ability to operate a vehicle safely and develop strategies for alternative means of safe transportation.

- 6.2.1 Refusal skills
- 6.2.2 Peer intervention skills

C 6.3 Student will explain the need for driver fitness to aid managed-risk driver performance and recognize that external and internal vehicle distractions, fatigue, and aggression may result in injury and physical damage crashes.

- 6.3.1 Driver distractions
 - a. Definitions/types
 - i. Physical
 - ii. Mental
 - iii. Visual
 - iv. Auditory
 - b. Effect on new drivers
 - c. Outside vehicle distractions
 - d. Inside vehicle distractions, including vehicle technology and passengers
- 6.3.2 Dividing attention
 - a. Vision needs
 - b. Mental awareness
- 6.3.3 Fatigue and sleep disorders
- 6.3.4 Driver aggression and response

C 7.0 Classroom Standard Seven: Managing Adverse Conditions

The student will:

- 7.1. recognize how adverse weather conditions can impact visibility and traction; and respond by adjusting speed to meet the driver's ability to change direction, speed, and lane position within the limits of road conditions.
- 7.2. recognize how night driving creates a visibility problem and how this affects space management in regard to speed and lane position adjustments.

C 7.1 Student will recognize how adverse weather conditions can impact visibility and traction; and respond by adjusting speed to meet the driver's ability to change direction, speed, and lane position within the limits of road conditions.

- 7.1.1 Identify types of weather and visibility conditions

- a. Understand what can go wrong
 - b. Prevention techniques
 - c. Types of adverse conditions
 - d. Vehicle control
 - e. Technology concerns (e.g., cruise control, lane keeping assist)
- 7.1.2 Identify traction conditions.
- a. Understand what can go wrong
 - b. Prevention techniques
 - c. Understeer
 - d. Oversteer
 - e. Vehicle control
- 7.1.3 Traffic flow situations under limited conditions of visibility/traction.
- 7.1.4 Intersection management under limited conditions of visibility/traction.
- a. Traffic flow to each side of vehicle
 - b. Oncoming traffic gap selection
 - c. Crossing traffic gap selection
- 7.1.5 Multiple-lane choices and usage under limiting conditions
- 7.1.6 Responding to non-motorized highway users

C 7.2 Student will recognize how night driving creates a visibility problem and how this affects space management in regard to speed and lane position adjustments.

- 7.2.1 Understand what can go wrong
- 7.2.2 Prevention techniques
- 7.2.3 Vehicle control
- 7.2.4 Technology concerns (e.g., cruise control)

C 8.0 Classroom Standard Eight: Other Roadway Users

The student will:

- 8.1. describe the characteristics and limitations of other motorized vehicles that may have different weight, speed, and visibility and respond with appropriate space management principles.
- 8.2. describe the characteristics and limitations of small, lightweight motorized and non-motorized vehicles and pedestrians that may have different speed, and visibility problems and respond with appropriate space management principles.
- 8.3. describe the characteristics and limitations of tracked vehicles (trains and trolleys) that may have different weight, speed, and visibility problems and respond with appropriate space management principles.

C 8.1 Student will describe the characteristics and limitations of other motorized vehicles that may have different weight, speed, and visibility and respond with appropriate space management principles.

- 8.1.1 Heavy commercial vehicles (e.g., tractor trailers, dump trucks)
 - a. Vehicles dedicated to commercial use
 - b. Trailer combinations- single, double, triple
 - c. Visibility

- d. Passing
- e. Wind blast
- f. Space needs when turning
- g. Passenger vehicle interaction
 - i. No zones
 - ii. Weight transfer of trailer load (e.g., tanker trucks)
- h. Hazardous materials vehicle interaction
- 8.1.2 Commercial and non-commercial passenger vehicles
 - a. School bus
 - b. Multi-purpose activity bus
 - c. Transit bus
 - d. Motorcoach
 - e. Shuttle bus
 - f. Autonomous passenger vehicles
- 8.1.3 Vehicle and trailer combination
 - a. Passing issues
 - b. Wind blast issues
 - c. Space needs when turning
 - d. Visibility issues
- 8.1.4 Delivery vans and trucks and large autonomous delivery vehicles on the roadway
- 8.1.5 Motorcycles and mopeds
 - a. Awareness
 - i. Searching for and identifying
 - ii. Awareness of visibility limitations
 - iii. Lane position
 - iv. Space management
 - v. Following distance
 - vi. Group riders
 - vii. Humanize motorcycle and moped riders
 - b. Unique characteristics
 - i. Profile, size and maneuverability
 - ii. Speed
 - iii. limitations
- 8.1.6 Construction vehicles and work zones
- 8.1.7 Emergency vehicles
- 8.1.8 Farm equipment
- 8.1.9 Funeral processions
- 8.1.10 Snowmobiles, ATV units, and golf carts
 - a. Speed issues
 - b. Different travel speeds
 - c. Maintaining momentum on hills
 - d. Acceleration/deceleration

C 8.2 Student will describe the characteristics and limitations of small, lightweight motorized and non-motorized vehicles and pedestrians that may have different speed, and visibility problems and respond with appropriate space management principles.

- 8.2.1 Small, lightweight motorized and non-motorized vehicles and pedestrians
 - a. Pedestrians (e.g., visually impaired, disabled, led by service dogs, children)
 - b. Pedal cyclists, bicyclists, and cargo bicyclists (electric and self-propelled)
 - c. Personalized transport (e.g., skates, skateboards, horses, hoverboards, scooters, two-wheeled personal transporter, wheelchairs)
 - d. Horse drawn equipment
 - e. Animals
 - f. Small autonomous delivery vehicles, which ride on the sidewalk or along the roadway
- 8.2.2 Driver response
 - a. Space management
 - b. Speed

C 8.3 Student will describe the characteristics and limitations of tracked vehicles (trains and trolleys) that may have different weight, speed, and visibility problems and respond with appropriate space management principles.

- 8.3.1 Freight trains
- 8.3.2 High speed passenger trains
- 8.3.3 Electric/cable cars
- 8.3.4 Light rail
- 8.3.5 Trolley cars

C 9.0 Classroom Standard Nine: Responding to Emergencies, Vehicle Malfunctions and Crashes

The student will:

- 9.1. recognize and respond to vehicle malfunctions in a managed-risk manner, understand vehicle braking and technology systems and utilize proper braking techniques.
- 9.2. understand and relate how the roadway system is managed by police and state agencies to assist with emergencies, crashes, and vehicle malfunctions.
- 9.3. recognize the responsibilities for attending to a crash scene situation.

C 9.1 Student will recognize and respond to vehicle malfunctions in a managed-risk manner, understand vehicle braking and technology systems and utilize proper braking techniques.

- 9.1.1 Dashboard electronic malfunctions
 - a. Alert lights and symbols
 - b. Warning lights and symbols
- 9.1.2 Engine, fuel, and ignition system malfunctions
- 9.1.3 Lights and signal malfunctions

- 9.1.4 Steering and suspension malfunctions
 - a. Power steering
 - b. Off-road recovery
 - c. Understeer/oversteer recognition and correction
 - d. Intelligent stability and handling systems (ISHS, ESP, ESC)
- 9.1.5 Tires, traction loss recognition and control
 - a. Blowouts
 - b. Understeer/oversteer recognition and correction
 - c. Intelligent stability and handling systems (ISHS, ESP, ESC)
- 9.1.6 Braking system malfunctions
 - a. Antilock braking systems (ABS)
 - b. Understeer/oversteer recognition and correction
 - c. Intelligent stability and handling systems (ISHS, ESP, ESC)
- 9.1.7 Vehicle load and weight distribution
 - a. Effect on weight transfer
 - b. Forces of impact
 - c. Traction, gravity, inertia, momentum
 - d. Tire condition/air pressure
 - e. ABS (two-wheel/four-wheel)

C 9.2 Student will explain how the roadway system is managed by police and state agencies to help assist with emergencies, crashes and vehicle malfunctions.

- 9.2.1 Law enforcement agencies
 - a. State enforcement agencies
 - b. County enforcement agencies
 - c. Local enforcement agencies
- 9.2.2 Emergency response agencies
 - a. Getting help
 - b. Types of emergency response
- 9.2.3 Rules of Road
 - a. Financial responsibility
 - b. Move over law

C 9.3 Student will recognize the responsibilities for attending to a crash scene.

- 9.3.1 Responsibilities at a crash scene
- 9.3.2 Getting help
- 9.3.3 Reporting crashes

C 10.0 Classroom Standard Ten: Understanding Advanced Driver-Assistance Systems (ADAS) Safety Features

The student will:

- 10.1. describe advanced driver-assistance systems (ADAS).
- 10.2. identify safety features within the categories of advanced driver-assistance systems.
- 10.3. know how to use safety features safely and effectively.

10.4. identify the performance abilities and limitations of current safety features.

C 10.1 Student will describe ADAS, including the benefits and concerns.

10.1.1 ADAS

- a. What it is
 - i. Systems using a variety of sensors, software technology and safety features working together to reduce crashes are known as ADAS
- b. What it does
 - i. Employ on-board sensors and software technology that sense and monitor conditions inside and outside the vehicle to identify potential risk situations
- c. Who is responsible?
 - i. The driver is completely responsible for the safe and effective use of ADAS
 - ii. If a crash occurs or the safety feature is used improperly the driver is legally responsible and not the manufacturer

10.1.2 Potential benefits

- a. Reduction of crashes, injuries, and fatalities
- b. Reduction of human error
- c. Improved warning/reaction/response times
- d. Reduced driver fatigue and distractions by sensing or warning the driver (only certain technologies)
- e. Smoother traffic flow
- f. More efficient transportation, leading to lower fuel/energy use and fewer harmful emissions/smaller carbon footprint

10.1.3 Potential concerns

- a. Drivers changing their behavior based on technologies
- b. Perceived performance misconceptions and expectations (e.g., driving faster, following more closely, braking later, cornering more aggressively)
- c. Unfamiliar with how to use vehicle safety technologies
- d. Eliminate the potential benefit by turning off vehicle safety technologies
- e. The driver may initially be overwhelmed by warnings, alerts, and information.
- f. Become complacent and therefore ignore or disregard a warning

C 10.2 Student will identify the categories of ADAS and their respective safety features. Note: Refer to Appendix A ADAS Safety Features for a full list of safety features and those that are the most important to cover. Refer to [Clearing the Confusion: Common Naming for Advanced Driver Assistance Systems](#) for a list of categories and examples. The categories include:

10.2.1 Warnings

10.2.2 Intervention

10.2.3 Assistance

10.2.4 Parking assistance

10.2.5 Other driver assistance features

C 10.3 Student will describe how to use advanced driver assistance system (ADAS) safety features safely and effectively.

- 10.3.1 Read the vehicle owner's manual and know the safety features for every vehicle owned and driven
- 10.3.2 Know how the safety features function before driving
- 10.3.3 Remain engaged in the driving task, the driver may become distracted or inattentive and pay less attention
- 10.3.4 Keep safety features on unless environmental conditions warrant turning them off (e.g., advanced cruise control during adverse weather)
- 10.3.5 Keep sensors and software technology clean and in working condition
- 10.3.6 Stay up to date on vehicle safety features because of ongoing testing and improvements

C 10.4 Student will identify the limitations of current advanced driver-assistance system (ADAS) safety features.

- 10.4.1 Limitations due to environmental factors or roadway conditions (e.g., nighttime, line of sight, turns, curves, adverse weather, dirty sensors, pavement markings)
- 10.4.2 Limitations inherent in the safety features (e.g., sensor performance, design, intended purpose)

C 11.0 Classroom Standard Eleven: Making Informed Consumer Choices

The student will:

- 11.1. recognize problems consumers confront when making informed choices in purchasing insurance or an automobile.
- 11.2. describe operator responsibilities in regard to licensing and registration.
- 11.3. identify operator and passenger responsibilities in regard to traffic stops.
- 11.4. describe the impact vehicles have on the environment and develop strategies to reduce the carbon footprint.

C 11.1 Student will recognize problems consumers confront when making informed choices in purchasing insurance or an automobile.

- 11.1.1 Insurance
 - a. Types
 - b. Needs
 - c. Safety and financial responsibility (see state law)

C 11.2 Student will describe operator responsibilities in regard to licensing and registration.

- 11.2.1 Licensing/registration laws
 - a. Driver
 - b. Vehicle

C 11.3 Student will identify operator and passenger responsibilities in regard to traffic stops.

- 11.1.1 Operator responsibilities
- 11.1.2 Passenger responsibilities

C 11.4 Student will describe the impact vehicles have on the environment and develop strategies to reduce the carbon footprint.

11.4.1 Fuel-saving driving habits

11.4.2 Alternative fuels

Appendix A: Advanced Driver-Assistance System (ADAS) Safety Features

The following provides a list of ADAS safety features. This is not a comprehensive list but contains the most common ADAS safety features to date.

*Indicates a safety feature which is most important to cover in the curriculum.

Ongoing Safety Features

- All-wheel drive
- Antilock brakes (ABS)
- Electronic stability control (ESC)*
- Traction control*

Vehicle Warning System Safety Features

- Backup or rearview cameras*
- Backup warning*
- Bicycle detection
- Blind spot warning*
- Curve speed warning
- Drowsiness alert
- Forward collision warning*
- High speed alert
- Lane departure warning*
- Obstacle detection
- Parking collision warning
- Pedestrian detection
- Rear cross traffic warning
- Side view camera
- Surround view camera
- Temperature warning
- Tire pressure monitoring system

Vehicle Assistance System Safety Features

- Active driving assistance
- Active parking assistance
- Active and passive safety systems (active head restraints, advanced airbags and safety belt pretensions)

- Adaptive cruise control*
- Adaptive headlights
- Automatic emergency braking*
- Automatic emergency steering*
- Hill descent assist
- Hill start assist
- Lane keeping assistance*
- Left turn crash avoidance
- Remote parking assistance
- Reverse automatic emergency braking*
- Self-dimming headlights
- Telematics (connected services)
- Traffic jam and queuing assist
- Trailer assistance
- Vehicle to infrastructure communication
- Vehicle to vehicle communication

Vehicle Convenience System Safety Features

- Active window/windshield display
- Automatic high beams
- Biometric car access
- Hands-free vehicle door open
- Head-up display
- Keyless entry/start
- Navigation systems and alerts
- Night vision
- Remote vehicle shutdown/start
- Self-parking vehicles
- Three-dimensional gestures
- Voice recognition

OR by Categories Recommended by AAA, NSC, CR, JD Power, SAE

Collision Warning

- Blind spot warning*
- Forward collision warning*
- Lane departure warning*
- Parking collision warning
- Rear cross traffic warning

Collision Intervention

- Automatic emergency braking*
- Automatic emergency steering*

- Reverse automatic emergency braking*

Driving Control Assistance

- Active driving assistance
- Adaptive cruise control*
- Lane keeping assistance*

Parking Assistance

- Backup or rearview cameras*
- Surround view camera
- Active parking assistance
- Remote parking assistance
- Trailer assistance

Other Driver Assistance Systems

- Automatic high beams
- Driver monitoring
- Head-up display
- Night vision