## Online – Driver Instruction: All modules at a glance

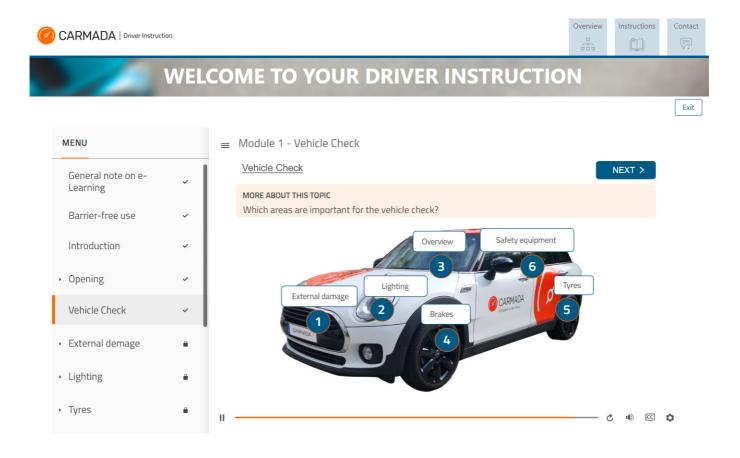
In the Carmada driver training, essential aspects of occupational safety in the area of "company car drivers" are summarised with an e-learning as an electronic tool. In this training, we inform you about responsibilities and regulations, among other things, but first and foremost it is about your safety. With the successful completion of the eight learning modules, the most relevant topics are explained and covered. In the case of instruction in accordance with §12 of the Occupational Health and Safety Act and §4 of DGUV Regulation 1, oral instruction on the specific, workplace-related hazards and on the company-specific protective and emergency measures must be given in addition to this programme.

All eight modules are presented in short form on the following pages:





## Module 1 – Vehicle check



Before each journey, you must check the vehicle for road safety in accordance with the Road Traffic Act and the regulations of the Employer's Liability Insurance Association.

The following areas are checked:

 External damage → Damage to the pool vehicle that was not caused by you must also be reported.

- Lighting  $\rightarrow$  The lighting system must function properly.

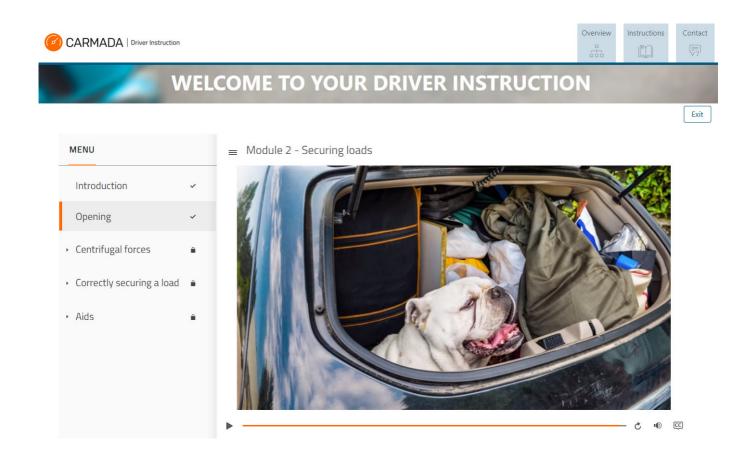
- Tyres  $\rightarrow$  Check air pressure, tread depth, tyre condition and for damage.

- Windscreens → Clean windscreens, no cracks

- Safety equipment → High-visibility waistcoat (always handy in the car), first-aid kit (always full and up-to-date), warning triangle (it doesn't hurt to test the set-up).

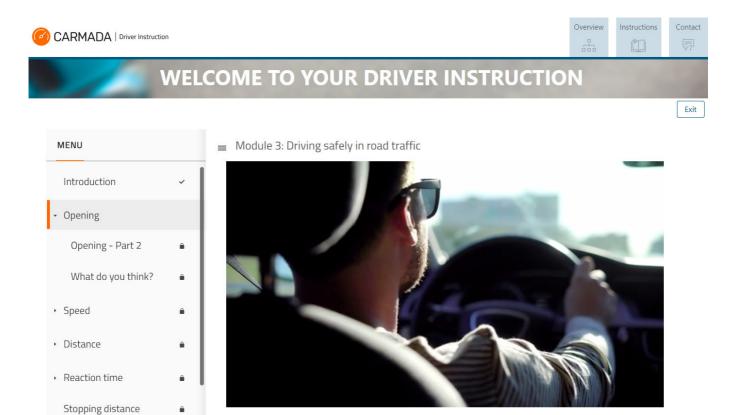
Basic rule number 1 is: "If the operational safety is endangered, the vehicle may no longer be used under any circumstances!"

## Module 2 – Securing loads



- A suitable place to properly stow a laptop, for example, is in the luggage compartment under the safety net.
- In the event of emergency braking, an evasive manoeuvre or a rear-end collision, objects flying around in the vehicle can reach many times their own weight
- The vehicle must be suitable for transporting the load
- Heavy items should be on the bottom and lighter items on the top
- A gapless load without cavities is recommended
- The vehicle must be fully functional despite the load and the view must be free in all directions.
- Suitable aids must be used to secure the load (lashing straps, nets, anti-slip mats, fixed boxes, etc.).
- Overhanging loads must be marked accordingly
- For all passenger cars, station wagons and multi-purpose cars within the scope of the accident prevention regulation "Vehicles", the equipment with lashing points and restraint devices is mandatory in Germany.
- Tyres should never be transported unsecured inside the vehicle, as this can be very dangerous.

## Module 3 – Driving safely in road traffic



- Speed is the most frequent cause of all fatal accidents

1) CC

Ċ

- Speed greatly intensifies the impact
- Speed limits in Germany
  - o Town: max 50 km/h
  - o Country road: max 100 km/h
  - o Speed restricted zone: mostly 30 km/h
  - o Traffic-calmed area: walking speed
  - o Motorway speed limit: 130 km/h
- The closer you drive up, the smaller your field of vision and the faster you have to react in an emergency.
- An important rule of thumb is therefore: distance = half the speedometer.
- It takes an average of one second for the human brain to recognise a danger (reaction time according to case law)

Fog

Dusk

Wet road surface

Snow/lce

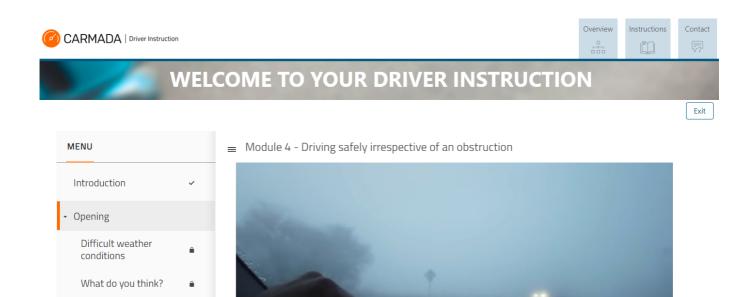
- Reaction distance + braking distance = stopping distance
- The rules of the road traffic regulations always apply
- In road traffic you are personally liable for all offences
- Drugs at the wheel are forbidden
- Make sure you wear suitable clothing, which should not be constricting.
- Driving time is considered working time if you are using a company vehicle for business purposes.

Ċ

•© CC

- Always be fair and considerate in road traffic

# Module 4 – Driving safely irrespective of an obstruction

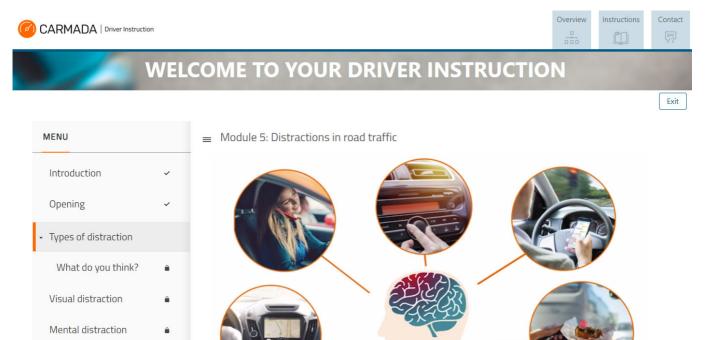


- "The driver of a vehicle may only drive at such a speed that he is in constant control of his vehicle. He must adapt his speed in particular to the road, traffic, visibility and weather conditions, as well as his personal abilities and the characteristics of the vehicle and load..." (Source StVO § 3 Speed)
- Rule of thumb (e.g. in fog): Speed = visibility in meters
- Switch off high beam in fog
- Visibility below 50 meters = switch on rear fog light
- Windscreens and windscreen wipers should be in perfect condition
- Rule of thumb distance: visibility = safety distance
- The performance of the human eye decreases rapidly with the onset of twilight switch on the lights in good time
- By law, the tread depth must be at least 1.6 mm
- Keep steering straight in aquaplaning conditions and avoid braking
- In snow and icy conditions, the braking distance can increase enormously
- Winter tires are recommended from October to Easter
- Be careful in case of accidents with wild animals, they can be aggressive when hit.
- Under no circumstances should you pick up wild animals that have been hit by a car.
- Wildlife accidents must ALWAYS be reported immediately to the police or hunter

Motor deflection

**Useful Tips** 

### Module 5 – Distractions in road



- Distraction is a highly underestimated risk when driving a car

- Visual distraction leads to a lack of information - traffic situations are often perceived much later, because our gaze to the air conditioning, the radio or the navigation system limits our attention

C 🖤 🖸

- The use of cell phones while driving is not permitted in Germany if the device has to be held in the hand for this purpose

- Mental distraction leads to wrong decisions - audio books, talking on the phone, talking to passengers, writing messages or very loud music can severely tie up attention.

- Motor distractions such as eating, drinking, smoking or wiping the windshield clear reduce responsiveness

#### Tips:

Stress factors - Part 2

Counter-measures - Part

Counter-measures - Part

Counter-measures - Part

Consequences of stress

1

2

3

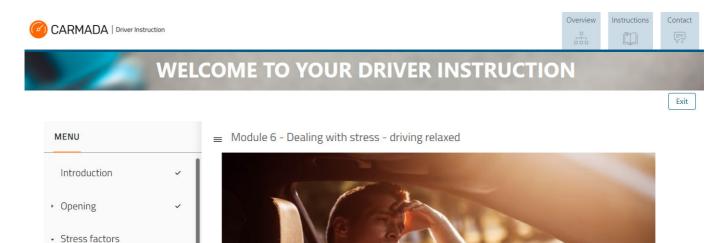
~

- Plan your trip in advance so you are not pressed for time
- Always keep both hands on the wheel
- Keep your mind on the driving or traffic situation
- Keep all device operations to a minimum
- Avoid making phone calls while driving, including hands-free calls
- Carry out distracting activities during breaks

## Module 6 – Dealing with stress – driving relaxed

¢ ©

CC 🗘



There are many causes of stress: difficult weather conditions, very long journeys, uncomfortable seats, high traffic volumes, time pressure, postponed appointments, poor route planning.

What can you do to escape stress?

#### Personally:

- You should feel as fit as possible - yawning, rubbing your eyes or a slowed reaction are early signs of fatigue

- Taking a 10 to 15 minute break every 2 to 3 hours is recommended
- Good climate in the car, fresh air and light food can also help

- Even wakefulness stimulants like coffee, energy-containing caffeine drinks or glucose won't save you from dangerous microsleep!

#### Organizational:

- Plan your trip as well as possible in advance and take into account all eventualities such as difficult parking situations, road works, etc.

- A realistic schedule with sufficient buffer times

#### Situational:

- Drive as defensively as possible in the event of unscheduled trip extensions

- Keep sufficient distance to the vehicle in front
- Brake with foresight

#### Among other things, these can be consequences of stress

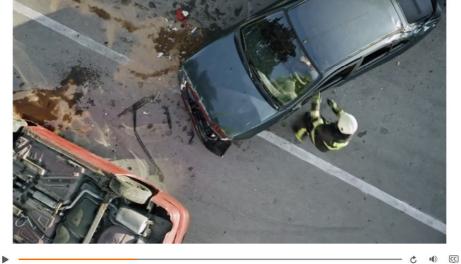
- Lack of concentration
- negative thoughts
- tunnel vision
- increased blood pressure
- aggression
- shortness of breath

Proper seat adjustment helps keep you comfortable and alert longer. If you can fully pedal without having to stretch your knees, the seat is optimally adjusted. Seat belts are compulsory in Germany.

## Module 7 – Accident – Taking the right action



Introducti	ion	~
Opening		~
<ul> <li>First Step</li> </ul>	05	â
Minor der	mage	۵
Personal	injury	â
Emergeno	cy call	۵
General n Learning	ote on e-	â



- Proceed calmly and prudently
- Pay attention to the traffic situation before getting out of the car
- Find a safe place to make a phone call
- If all parties involved agree, an amicable settlement can also be reached without the police in the case of minor damages
- Record the license plate number of the other party involved in the accident and the personal details of all parties involved and witnesses
- Secure traces of the accident at the accident site
- Take photos of the vehicles involved and the accident site, if possible before the accident site is cleared.
- An accident sketch can also be helpful

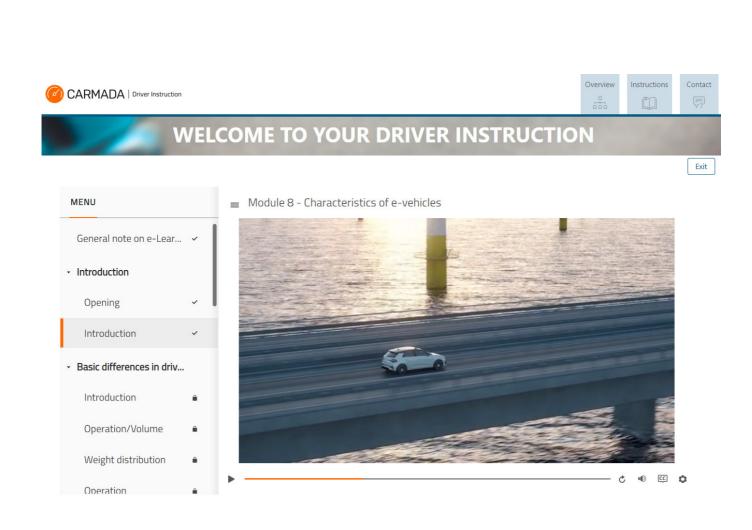
#### What do I do first in the event of an accident?

- 1. turn on the hazard warning lights
- 2. put on warning vest while still in the vehicle
- 3. set up a warning triangle
- 4. alert the emergency services
- 5. give first aid

#### The five questions:

- 1. where is the accident site?
- 2. what has happened?
- 3. how many people are injured?
- 4. what injuries?
- 5. waiting for further inquiries

## Module 8 – Characteristics of E-vehicles



- According to studies, the use of electric cars is already more climatefriendly than the use of vehicles with gasoline or diesel engines

#### Basic differences in driving behavior

- A distinction is made between purely electric cars, plug-in hybrids or simply hybrids

- Most important difference: the electric car runs solely on battery power, hybrid cars use both an internal combustion engine and a battery as an alternative mode of propulsion

- Special features of driving an electric vehicle are the volume of the drive, the weight distribution and the operation

- Electric vehicles are virtually silent, so they can be quickly overheard by pedestrians, cyclists or other motor vehicles

- As of July 1, 2019, an AVAS (Acoustic Vehicle Alerting System) is mandatory, through which electric cars emit artificially generated engine sounds up to a speed of 20 kilometers per hour

- The center of gravity of e-vehicles is close to the road, there are less centrifugal forces, which makes the e-vehicle very stable in curves

- Most electric vehicles have a power-saving "Eco" mode

#### Charging process

- For proper charging, the vehicle manufacturer's safety instructions in the user manual must be observed

- Vehicle socket and charging pole must be free of damage and contamination

- The system must be protected by means of FI circuit breakers

- An electric vehicle can also be charged at home via a wallbox (400-volt power connection required from a specialist) - a household socket, on the other hand, is not designed to handle this continuous load

- Charging time depends on the size of the battery, how empty it is and the maximum power at which it is charged.

#### Range

- Most e-cars can travel between 150 and 350 kilometers on a single charge, with the average being around 200 kilometers.

- Since there is still no nationwide charging infrastructure in Germany, longer distances are more difficult

- Roadside assistance must tow the vehicle away in any case if the battery runs out on the road

- Factors such as driving behavior, driving distance, speed, temperature or additional consumers influence the range

#### Sources of danger in accidents

- Chemical hazards such as spilled liquids can be irritating, corrosive, (mildly) flammable or harmful, depending on the type of lithium-ion rechargeable battery

- If the accumulator burns, the fire power is enormous

- Thermal hazards such as overheating or overcharging of the accumulator can cause a short circuit

- Electrical hazards such as arc faults, which are caused by a voltage flashover between electrical system components, can lead to cardiac arrhythmia or ventricular fibrillation if touched

- Any contact with electrolyte that may have leaked from the battery or the damaged high-voltage system must be avoided

- Damaged lithium-ion batteries may only be handled with appropriate personal protective equipment

- Accidentally damaged electric vehicles can also catch fire with a time delay

- The electric motor and high-voltage system, including the traction battery, are off limits to non-professionals

- Special qualifications and certain technical conditions and protective measures are required for more complex repairs