

**INSTRUCTIONS:**

Fill out the hazard analysis and risk assessment below.

HA-001 should be for the lane departure warning function as discussed in the lecture.

HA-002 should be for the lane keeping assistance function as discussed in the lecture.

Then come up with your own situations and hazards for the lane assistance system. Fill in the HA-003 and HA-004 rows.

When finished, export your spreadsheet as a pdf file so that a reviewer can easily see your work.

Hazard ID	Situational Analysis				
	Operational Mode	Operational Scenario	Environmental Details	Situation Details	Other Details (optional)
HA-001	OM03 Normal Driving	OS04 on a highway	EN06 rain (slippery road)	SD02 with high speed	
HA-002	OM03 Normal Driving	OS03 on country roads	EN01 normal	SD02 with high speed	
HA-003	OM03 Normal Driving	OS04 on a highway	EN01 normal	SD02 with high speed	
HA-004	OM03 Normal Driving	OS02 on a city road	EN06 rain (slippery road)	SD01 with low speed	

Item Usage (function)	Situation Description	Function	Deviation	Deviation Details
IU01 correctly used	Normal driving on a highway during rain with	Lane Departure	DV04 Actor	The LDW function applies an
IU02 incorrectly used	The driver is misusing the LKA function for	Lane Keeping	DV03 Function	The LKA function is always
IU01 correctly used	Normal driving on a highway under normal	Lane Departure	DV04 Actor	The LDW function applies an
IU01 correctly used	Normal driving on a city road during rain with	Lane Departure	DV04 Actor	The LDW function applies an

Hazard Identification				
Hazardous Event (resulting effect)	Event Details	Hazardous Event Description	Exposure (of situation)	Rationale (for exposure)
EV00 Collision with	A high haptic feedback can effect the	The LDW function applies too	E3 Medium	Driving on highways when it rains
EV00 Collision with	The LDA function is misused or	The LDA function provides no	E2 Medium	Driver is on a couthry round and
EV00 Collision with	A high haptic feedback can effect the	The LDW function applies too	E4 Medium	Driving on highways under normal
EV00 Collision with	A high haptic feedback can effect the	The LDW function applies too	E3 Medium	Driving on city road when it rains

Hazardous Event Classification				Determin
Severity (of potential harm)	Rationale (for severity)	Controllability (of hazardous event)	Rationale (for controllability)	ASIL Determination
S3 Life threatening or fatal	driver is going high	C3 Difficult to control	The steering wheel ozialtes extremly hard at rainy	ASIL C
S3 Life threatening or fatal	driver is going high	C3 Difficult to control	The drivers hands are not on the wheel at high	ASIL B
S3 Life threatening or fatal	driver is going high	C3 Difficult to control	The steering wheel ozialtes extremly hard at high	ASIL D
S1 Light and moderate	driver is going low	C3 Difficult to control	The steering wheel ozialtes extremly hard at rainy	ASIL A

X

Definition of ASIL and Safety Goals	
Safety Goal	
The oscillating steering torque from the	
The LKA function shall be time limited and	
The oscillating steering torque from the	
The oscillating steering torque from the	