

## PROJECT SPECIFICATION

## Functional Safety of a Lane Assistance System

## Project Documents

CRITERIA	MEETS SPECIFICATIONS
Have all of the documents been submitted?	The submission should include five documents all in pdf format: SafetyPlan Hazard Analysis and Risk Assessment Functional Safety Concept Technical Safety Concept Software Requirements and Architecture

## Safety Plan

CRITERIA	MEETS SPECIFICATIONS
Does the submission demonstrate a working knowledge of how to develop a safety plan?	All required sections of the template should be filled out and contain reasonable answers: purpose of the safety plan, item definition, goals and measures, safety culture, safety lifecycle tailoring, development interface agreement, confirmation measures. We want to make sure that you understand what a safety plan is and how to make a safety plan.

## Hazard Analysis and Risk Assessment

CRITERIA	MEETS SPECIFICATIONS
Does the submission demonstrate how to document a hazard analysis and risk assessment?	The lessons contained a hazard analysis and risk assessment for the lane departure warning and the lane keeping assistance functions. These two analyses should be documented using the Excel template.
Does the submission include two other reasonable hazard analyses for the lane assistance system that were not discussed in the lessons?	Besides the two analyses from the lecture, the project should include two extra hazard analyses and risk assessments. These two extra analyses should include a situational analysis, hazard identification, hazardous event classification, ASIL and safety goals. The two hazards should be related to the Lane Assistance Item.

## Functional Safety Concept

CRITERIA	MEETS SPECIFICATIONS
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Does the submission show an understanding of how to document a functional safety concept?	All required sections from the functional safety concept template are complete.
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### Technical Safety Concept

CRITERIA	MEETS SPECIFICATIONS
Does the submission demonstrate an understanding of how to document a technical safety concept?	All required sections of the template should be filled out. The five technical safety requirements for the lane departure warning amplitude, as taught in the lessons, are documented correctly.
Does the submission show a knowledge of how to derive technical safety requirements?	Technical safety requirements should also be derived for the lane departure warning frequency malfunction and the lane keeping assistance time malfunction.

### Software Requirements and System Architecture

CRITERIA	MEETS SPECIFICATIONS
Does the submission demonstrate an understanding of how to document software safety requirements and a software architecture?	<p>All required sections of the software requirement and architecture document are complete (inputs to software requirements., software requirements, and refined architecture).</p> <p>The submission only needs to document software safety requirements for the lane departure warning amplitude malfunction, which were given in the lessons.</p>

### Suggestions to Make Your Project Stand Out!

There are a couple of areas where the project submission could be expanded.

One would be to expand the software safety requirements and software architecture to include the lane departure warning frequency malfunction and the lane keeping assistance time malfunction.

Another idea would be to come up with more malfunctions for the lane assistance system. You could then do a hazard analysis and risk assessment and derive more safety goals. Then you could take these safety goals and come up with functional safety requirements, technical safety requirements and software and/or hardware requirements. You could then allocate these requirements to the various levels of the system architecture.