



SOFTWARE INTENSIVE SYSTEMS

# Obtain your personal certification in ISO 26262

Functional safety training for  
semiconductor professionals

Within UL Solutions, we provide a broad portfolio of offerings to many industries. This includes certification, testing, inspection, assessment, verification and consulting services. In order to protect and prevent any conflict of interest, perception of conflict of interest and protection of both our brand and our customers' brands, UL Solutions has processes in place to identify and manage any potential conflicts of interest and maintain the impartiality of our conformity assessment services.

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# General information

This 2.5 day course is designed for engineers, developers and managers seeking to successfully apply ISO 26262 to their safety-related semiconductor programs. The training starts with an overview of ISO 26262:2018, followed by an in-depth discussion of all semiconductor key topics in ISO 26262, Part 11: Guidelines on Application of ISO 26262 to Semiconductors. UL Solutions Software Intensive Systems (SIS) expert instructors will describe functional safety for a wide range of semiconductor technologies and components, including microcontrollers, analog and mixed-signal designs, programmable logic devices, memories and intellectual property (IP). Functional safety analyses such as dependent failure analysis (DFA) and failure modes, effects and diagnostic analysis (FMEDA) are presented from a semiconductor viewpoint, including worked examples of DFA and FMEDA.

## Contents

- Introduction to ISO 26262:2018
- SEooC framework for semiconductor elements
- Semiconductor component development according to ISO 26262, Part 11
- Software development according to ISO 26262, Part 6
- Semiconductor quantitative hardware metrics
- Functional safety for semiconductor technologies
  - Digital components, including microcontrollers and memories
  - Analog elements
  - Programmable logic devices
  - IPs
- Dependent failure analysis
- Semiconductor safety evaluation

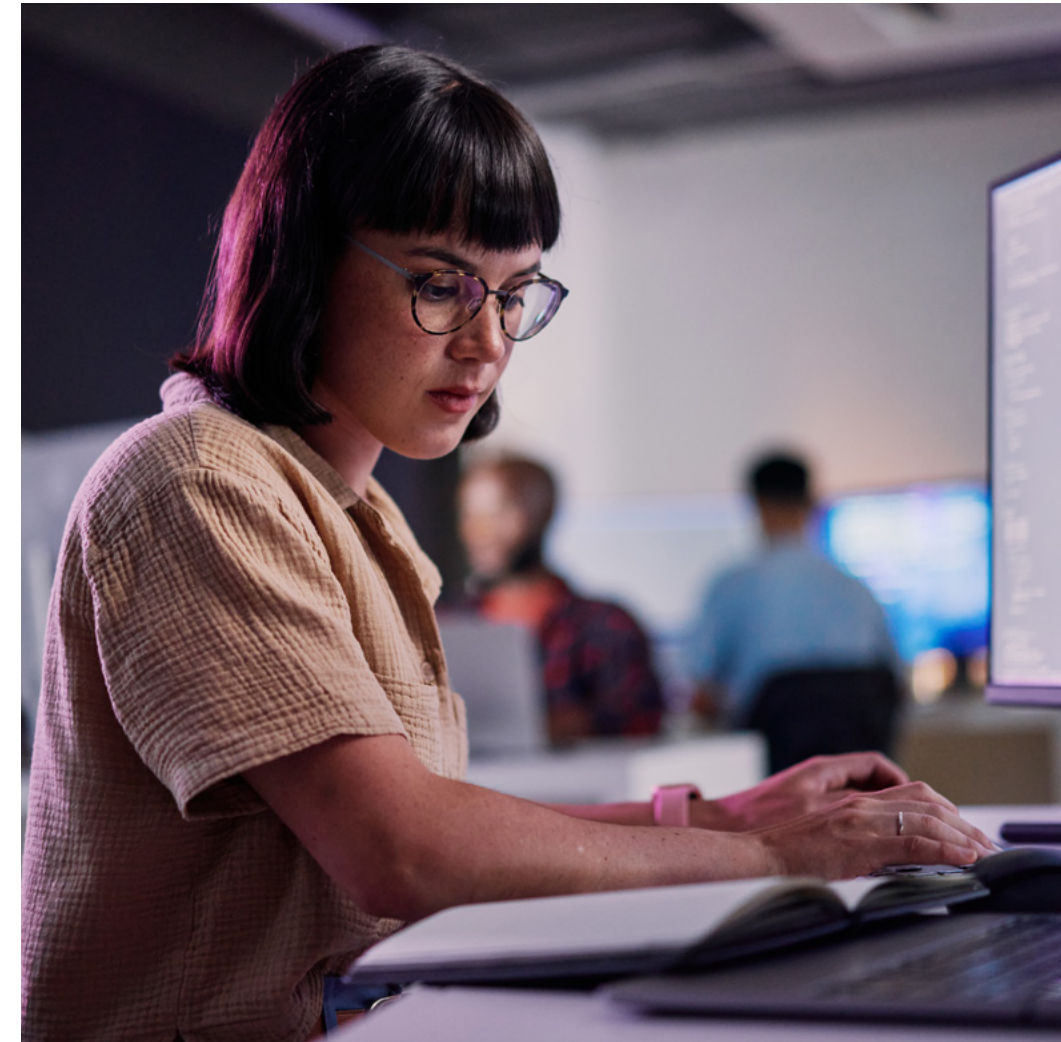
### **Optional UL Certified Functional Safety Professional Exam**

Participants who complete the 2.5 days of training are eligible to take a two-hour certification exam in the afternoon of the third day. Those who pass the exam are individually certified as a UL Certified Functional Safety Professional in Semiconductor, or UL-CFSP.

Upon the successful completion of the UL-CFSP exam, participants will receive a certificate and badge that they can use to demonstrate their competence in automotive functional safety. The certification is good for three years, after which individuals may recertify.

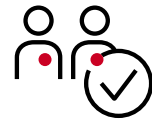
### **Objectives**

- Understand the fundamentals of functional safety: concepts, principles, standards and management across the value chain
- Understand safety goals and Automotive Safety Integrity Levels (ASIL)
- Apply ISO 26262 processes for functional safety to a wide variety of semiconductor products, including:
  - Digital components, including microcontrollers and memories
  - Analog elements
  - Programmable logic devices
  - IP
- Perform qualitative and quantitative safety analysis (techniques such as FTA, FMEA and FMEDA) throughout the development process
- Perform DFA for semiconductor products
- Evaluate quantitative hardware metrics, including SPFM, LFM and PMHF
- Define a software development process in accordance with the required ASIL

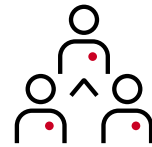




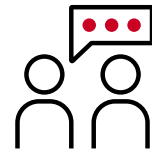
# Target audience



**Engineers, developers, project leaders, quality managers and testing personnel who are developing safety-critical automotive semiconductors based on ISO 26262.**



**Leaders of organizations involved in engineering development of automotive electronic systems, hardware, software and processes.**



**Semiconductor industry professionals seeking a better understanding of functional safety of automotive electronic systems and the ISO 26262 standard.**



**Safety and quality professionals responsible for ISO 26262 compliance.**





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