

exida Can Show you the Way



Training Course: Functional Safety Engineering II

This course provides an overview of Safety Engineering from the point of view of the Risk Analysis, Process Safety Coordinator. Covering in moderate depth, the first half of the Safety Life Cycle, the course reviews risk analysis, requirements creation and management, Safety Integrity Level (SIL) determination, Layer of Protection Analysis, and consequence analysis. The course sequence of Safety Engineering I and II is designed as a broad review in preparation for the Certified Functional Safety Expert (CFSE) application engineering exam.

Skills You Will Learn:

- ◇ Review the fundamental concepts from reliability engineering.
- ◇ Understand Safety Instrumented System failure modes.
- ◇ Develop an understanding of the Safety Life Cycle requirements from IEC61511, ANSI/ISA S84.01.
- ◇ Review how to implement SIS design from requirements analysis and documentation.
- ◇ Understand Safety Instrumented System analysis techniques.

Course Topics:

- ◇ Overview of reliability engineering
- ◇ Failure Modes and Effects Analysis
- ◇ the Safety Life Cycle
- ◇ Functional Safety Management
- ◇ Safety Instrumented System (SIS) design
- ◇ SIS Technologies
- ◇ major design issues,
- ◇ functional safety assessment
- ◇ verification & validation concepts.
- ◇ Fault tolerant architectures
- ◇ sensor architectures
- ◇ final element architectures
- ◇ Safety Instrumented Function design
- ◇ SIF verification and examples
- ◇ system engineering and installation

Who Should Attend:

- ◇ Those who want a good review prior to taking the CFSE application exam
- ◇ Loss Prevention Professionals
- ◇ Process Safety Coordinators
- ◇ Plant Risk Analysts
- ◇ Control Engineers and their Management

Length: 2 Days **Cost:** TBD

COURSE MATERIALS PROVIDED

Learning from the Experts



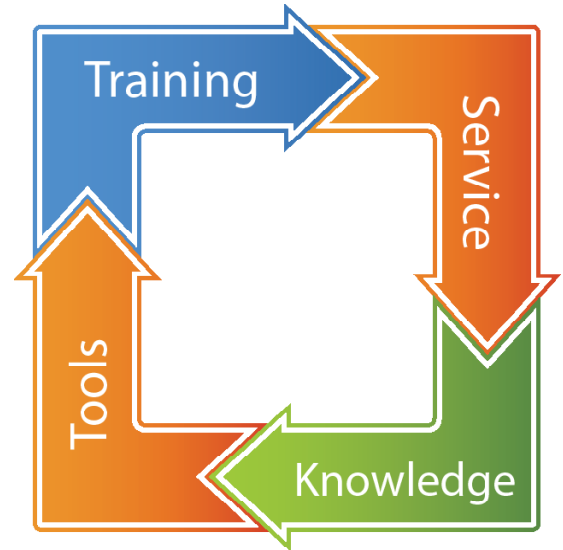
Experience has shown that most companies benefit from training as the first step in implementing a safety program. Having a solid up-front understanding of the Safety Life Cycle, the related standards and requirements for compliance, and the equipment selection and certification options ensures a focused and cost-effective safety initiative. And when you rely on exida for this knowledge, you gain access to some of the world's top experts in functional safety.

exida employees have written the books used for evaluating automation safety and reliability, they helped write the standards used for designing safe and secure systems, and they wrote many of the procedures used to certify the effectiveness of system hardware. They give the lectures and symposia that train industry's top professionals and present the latest developments. And since exida instructors are active safety professionals who participate in standards committees and provide professional safety services, the training reflects the most current and pressing issues.

exida delivers your training flexibly to accommodate your time and budget. Options include training courses delivered at your location, at an exida office, and through computer-based training modules. Example course topics include:

- The IEC 61508 and IEC 61511 Standards
- Hazard and Risk Analysis
- Safety Integrity Level (SIL) Selection
- Functional Safety Life Cycle Management
- CSFE (Certified Functional Safety Expert) preparation

exida also regularly publishes white papers and text books to facilitate learning on key topics, such as the best-selling book Safety Instrumented System Verification and the recently published book Final Elements and the IEC 61508 and 61511 Standards.



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