

Safety Instrumented Systems

FOUNDATION LEVEL



IChemE Accredited
Online Self-Paced Training Course



Safety Instrumented Systems

Foundation - with IChemE Certificate

Target Disciplines

- Operators and Maintenance technicians
- SHE/HSE professionals
- Process engineers
- Control & Instrument engineers
- Project engineers and managers
- Asset managers

System Integrators

- Control & Instrument engineers
- Project engineers and managers

OEM's

- Instruments, Interfaces, PLC's, Solenoids, Actuators and Valves

EPC's

- Process engineers
- Control & Instrument engineers
- SHE/HSE professionals

Learning Outcomes

Differentiate between functional safety standards IEC61508, IEC61511 and their primary usage.

Describe the main SIS safety lifecycle and explain inputs and outputs of each stage.

Relate tolerable risk targets to the ALARP principle of risk reduction, including how Safety Integrity Level (SIL) applies within this overall context.

Explain the main elements of a typical SIS and differentiate this from other protection layer options for risk reduction.

Outline typical process hazard analysis methodologies and SIL selection techniques including risk graphs and LOPA.

Demonstrate an understanding of failure rates and how they apply to probability of failure in the context of safety functions.

Summarize the need and principles of regular inspection and proof testing of safety functions.

IChemE accredited online training



"The course gives a very good outline of Functional Safety requirements in the process industries. It is challenging and makes you think about what you are learning."

Module	Minutes
Course instructions and introduction	5
Safety in context	10
Buncefield accident, UK - 2005	15
SIS history	15
SIS safety lifecycle overview	40
SIS introduction Quiz & Assessment	45
Texas City, USA - 2005	65
Key terminology	30
Regulations and standards	20
IEC 61511 Edition 2 Introduction Video	5
Terminology and standards Quiz & Assessment	45
Three Mile Island, USA - 1979	15
FS Management overview	15
Competence	10
Roles in the SIS safety lifecycle	15
Verification and Validation planning	10
Functional Safety Assessment & Audit	10
Management Quiz & Assessment	45
The Nimrod Accident	55
Process industry hazards	15
Process Hazards Analysis	15
Introduction to Probability and Frequency	30
Protection Layer Analysis and SIL Assessment	30
SIS cyber security risk assessment	30
Process hazard and risk Quiz and Assessment	45
SIS Safety Requirements Specification	25
Bhopal, India - 1984	60
SRS challenges	10
Safety requirements Quiz and Assessment	40
SIS equipment selection	20
SIS equipment failure	20
SIS hardware design	45
Application Programming	15
SIS application program - IEC 61511 edition 2 update	10
Installation to validation	10
SIS Design and Engineering Quiz & Assessment	45
SIS Operations	40
Bypass and override	30
SIS inspection and proof testing	20
SIS Modification & Decommissioning	10
SIS Operations and maintenance Quiz & Assessment	45



“SIS Foundation is one of the most comprehensive Functional Safety courses available via the internet. The course gives a special insight on SIS and their management in the process industry.”

G.Pacanins, P.Eng, Canada – Safety Consultant

Learn and track your progress

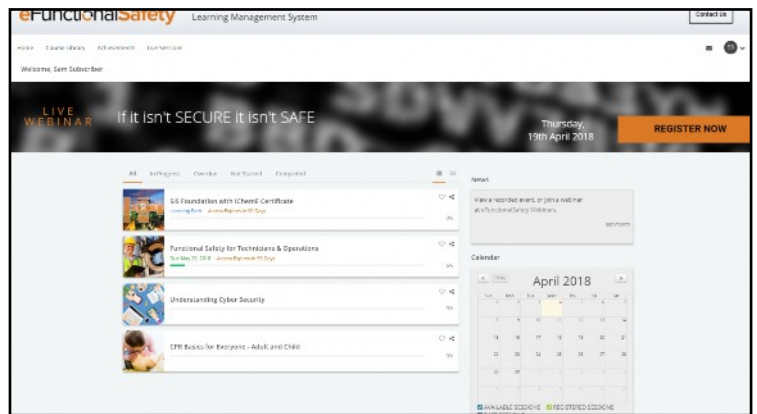
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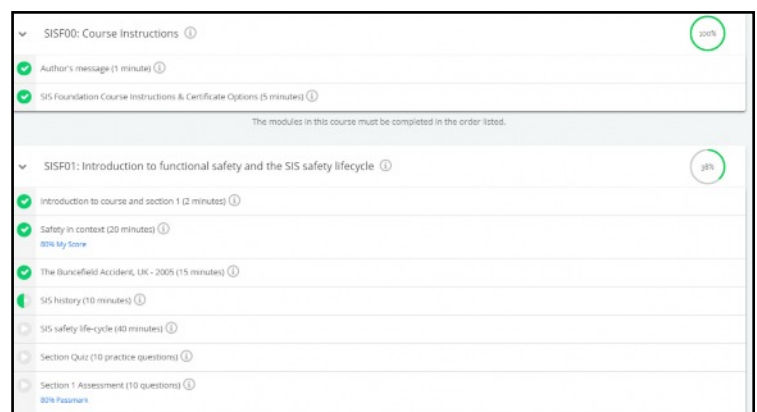
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We provide LMS compliant files including SCORM 1.2, 2004, AICC or xAPI (Tin Can) and all popular digital video formats.



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