

Functional Safety of Safety-Related Systems

Purpose

This course enables students to understand and apply the principles of functional safety to the development and assessment of safety systems, based on the IEC 61508 standard. The module illustrates the primary elements of the Safety Lifecycle and how these are applied to the development of safety systems. It also covers the assessment of safety systems to confirm that functional requirements and risk reduction targets have been achieved. Students will develop expertise in the application of the techniques necessary to specify, implement and assess safety systems to meet the requirements of IEC 61508.

At the end of the course you will be able to

1. Define safety functions and target Safety Integrity Level (SIL) requirements which will reduce the associated risks to a tolerable level.
2. Apply the analysis methodologies to ensure that, when implemented, the safety systems achieve specified risk reduction targets.
3. Logically deduce how the level of risk reduction achieved by a safety system could be improved and when risk has been reduced to As Low As Reasonably Practicable (ALARP).

Outline content

- Introduction to functional safety – background, terminology and aims
- The Safety Lifecycle (IEC 61508 view)
- Hazard & risk analysis techniques
- SIL selection (setting targets and requirements)
- Safety requirements specification development
- SIL and the design process
- Beyond design lifecycle phases
- Compliance demonstration
- Safety/project lifecycle management

Recommended prior study

Education, skills or experience equivalent to undergraduate level

Risktec modules: *Principles of Risk Management*; *Hazard Identification*

Who should attend

Electrical and mechanical engineers, operators, HSE advisors and risk management practitioners.

Delivery Methods

Face-to-face, Distance Learning, or Blended Learning

Levels of Assessment

- Attendance only
- Assessment by Risktec
- Risktec Professional Qualifications
- Postgraduate Qualifications: PgCert, PgDip and MSc

Assessment details

Postgraduate programmes: activities and assignment (total about 80 hours)

Module details

Level	Masters/RPQ
Duration	2 days (F2F), 8 weeks (Postgraduate or RPQ DL)

Price

For prices and further information, or to book a course, please contact **Vicky Billingham** at training@risktec.tuv.com

Contact

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