

TÜV Rheinland Certified Functional Safety Engineer ABB T142 Training Schedule 2015 – Issue Q1

Competency development

The process industries are continually seeking ways to improve the safety lifecycle, knowledge and practices of responsible persons who are involved with the assessment, specification, design and operation of safety instrumented systems (SIS).

Course goal

This industry recognised 'certificated' training course is geared to present the principles and requirements of functional safety according to IEC 61508 / IEC 61511. This includes the complete safety lifecycle in the context of SIS projects.

Course attendance is open to all interested parties. Achieving the threshold mark for the examination and meeting the prerequisites as detailed below will result in the candidate becoming a **Certified TÜV Rheinland FS Engineer**.

Learning objectives

Upon completion of this course, the participants should be able to:

- Describe the principles of Functional Safety Management and key features of IEC 61508 / IEC 61511
- Describe the requirements of the safety lifecycle
- Explain and determine Safety Integrity Levels (SIL) with different methods
- Outline the key deliverables from the safety lifecycle, roles and responsibilities
- Describe a Safety Requirement Specification (SRS)
- Appreciate the need for safety lifecycle processes, procedures, methods and techniques
- Explain and determine key factors used in the SIS engineering and design such as random hardware failure, architectural constraints and systematic capability

Participant profile

This training is targeted to control, instrumentation and application engineers who are involved in executing safety instrumented system projects covering any phase of the safety lifecycle from hazard and risk assessment, through engineering and design to operations and maintenance.

Prerequisites for TÜV FS Engineer Certificate

In accordance with the TÜV Rheinland Functional Safety program, to be accredited for attendance students shall have:

- A minimum of three years experience in the field of functional safety
- University degree or equivalent engineering experience and responsibilities as certified by employer or engineering institution



Topics

- TÜV functional safety program
- Background on functional safety
- Regulations and safety standards
- IEC 61508 and IEC 61511
- Management of functional safety
- Competency management
- Safety lifecycle phases and planning
- Hazard and risk analysis
- Target SIL determination methods
- Safety requirement specification
- SIS design and development
- Probability calculation
- Selection of components, subsystems
- Proven in use - aspects
- Verification, validation, audit and assessment
- Operations, maintenance and modifications
- Continuous review and improvement

Course type and methods

This is an instructor led course with interactive classroom discussions and practical examples of implementation of safety systems.

Course duration

The duration is four days, consisting of three days of tuition with an examination on the fourth day.

Course outline

Day 1
<ul style="list-style-type: none">– Course overview– TÜV Functional Safety program– Background on functional safety– Regulations and safety standards– Safety lifecycle
Day 2
<ul style="list-style-type: none">– Management of functional safety– Hazard and SIL determination– Safety Requirement Specification (SRS)– SIS design and engineering
Day 3
<ul style="list-style-type: none">– SIS design and engineering– Verification and validation– Continuing use and improvement
Day 4
<ul style="list-style-type: none">– Examination

'Open' course schedule

January 26-29, 2015	
In Oslo (Norway)	Instructor is Henrik Skovsgaard
March 17-20, 2015	
In Teesside (UK)	Instructor is Dr Alan King
April 14-17, 2015	
In Odense (Denmark)	Instructor is Henrik Skovsgaard
April 21-24, 2015	
In Minden (Germany)	Instructor is Dr Alan King
September 22-25, 2015	
In Minden (Germany)	Instructor is Dr Alan King
September/October 29-02, 2015	
In Odense (Denmark)	Instructor is Henrik Skovsgaard
November 03-06, 2015	
In Singapore	Instructor is Henrik Skovsgaard

Further course dates are shortly to be confirmed for:

- US/Canada
- Abu Dhabi

Client specific 'site-based' training

ABB are pleased to provide specific customer 'site-based' training courses where it is more appropriate in terms of cost efficiency and logistics for a number of engineers to be trained at your company premises. If you would like to run a training course specific to your organisation, then please do not hesitate to call the ABB contacts below.

On completion of the appropriate follow-up discussions, a fixed price training proposal will be issued to you for your approval to proceed and the training delivered to meet your specific on-site requirements.

How to order

For the 2015 open course schedule, please register via ABB University's web site: <http://www.abb.com/AbbUniversity/Courses.aspx?key=T142&country=all>. Select upcoming classes or use the keywords section to find the Expert Workshop you want to register for.

Call directly the ABB contacts below who can provide further information for site-based training courses.

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