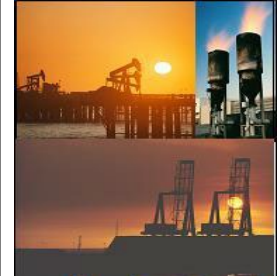| exida®	**IEC 61511: Functional Safety Analysis, Design, and Operation** *Previously titled Functional Safety Engineering I & II*	exida **Academy**

COURSE DESCRIPTION

CFSE

This course is registered with the CFSE Advisory board and is included on the Course Providers List

This course provides an overview of process industry safety engineering from the point of view of the Risk Analyst, Process Safety Coordinator, and Control Systems Design Engineer. It delivers a complete overview of the functional safety lifecycle. The course reviews Process Hazard Analysis (PHA), Consequence Analysis, Layer of Protection Analysis (LOPA), Safety Integrity Level (SIL) Target Selection, Safety Requirements Specification (SRS) generation, failure rates, device and system reliability, SIF verification, SIF detailed design and Operations requirements.

The FSE 100 course forms a broad review in preparation for the Certified Functional Safety Expert (CFSE) and Certified Functional Safety Professional (CFSP) process industry application engineering exams.

FSE 101	FSE 102

SKILLS YOU WILL LEARN

- Develop a thorough understanding of the IEC61511 Safety Life Cycle requirements, - Establishing tolerable risk and the ALARP concept, - Hazard and risk analysis techniques, - Layer Of Protection Analysis (LOPA) techniques, - SIL determination techniques.	- Review the fundamental concepts of reliability engineering. - Safety Instrumented System failure modes. - Develop a thorough understanding of the IEC61511 Safety Life Cycle requirements. - SIS design from requirements analysis and documentation. - Safety Instrumented System analysis techniques

COURSE TOPICS

- Introduction to Safety Instrumented Systems - Principles of Risk Management - The Safety Lifecycle - Process Hazard Analysis - Consequence Analysis - Likelihood Analysis - Layer of Protection Analysis - Tolerable Risk - SIL Target Selection - Safety Requirements Specification	- Safety Instrumented Systems Failure - From Failure Rate to SIL - Single Devices to System - Redundant Architectures - Requirements to SIF - SIF Design and Verification in the Safety Lifecycle - SIF Detail Design - Operations

TRAINING MATERIALS PROVIDED

Course Manual in Electronic Format - FSE 101 Slides - Exercises - Exercise Answers - Terms and Abbreviations	Course Manual in Electronic Format - FSE 102 Slides - Exercises - Exercise Answers - Terms and Abbreviations

WHO SHOULD ATTEND

COURSE CERTIFICATE

- Potential CFSP/CFSE application exam candidates. - Control Engineers and their Management - HSE engineering and management - Loss Prevention Professionals - Plant Risk Analysts	All attendees will receive a Course Completion certificate at the conclusion of the course. On completion of the course, the delegates will write a short exam. If successful, the delegates will receive an *exida* Academy **Functional Safety Practitioner** certificate. **FSP**

COURSE INSTRUCTOR

Mr. van der Merwe, CFSE, has over thirty years of professional experience in the design and engineering of Functional Safety Systems for a variety of industry sectors, including Oil & Gas, Petrochemical, Minerals Beneficiation, Paper & Pulp and Nuclear. During this time, he gained extensive experience with the application of the IEC Functional safety Standards (IEC 61508 & IEC61511) and the associated Safety Lifecycle. In his current role at Exida he is a Senior Safety Engineer, where he provides consulting and training services within the sub-Sahara African region. His responsibilities include facilitating functional safety, alarm management and cyber security projects in the process and related sectors. He regularly presents training courses on topics such as Functional Safety Engineering, Process Hazard Analysis and Alarm Management.

REGISTRATION FORM

Course Dates:		Venue:
Training Course:	22nd – 25th July 2024	Web-based Instructor-Led Training.
CFSP Exam Review:	26th July 2024	
CFSP Exam:	Online	

I will be attending:

IEC 61511: Functional Safety Analysis, Design, and Operation Training Course (R22,900)	☐	CFSP Exam Review (R3,900)	☐
I am interested in purchasing the Safety Book Package. Please send me information.			☐

⚠️ Because of the high level of difficulty of the CFSE/P exam, delegates are strongly encouraged to pursue additional studies on their own in preparation for the exam. (refer to the CFSE website www.exidacfse.org for exam application requirements)

DELEGATE INFORMATION

Name	
Organisation	
Postal Address	
Telephone	
Cell Phone	
Fax	
Email address	
Accounts Contact	

PAYMENT DETAILS

Electronic Fund Transfer	☐	Purchase order attached	☐

TERMS AND CONDITIONS

1. Receipt of payment will secure the booking, (bank details will be provided by email).
2. Purchase orders to be made out to **exida South Africa (Pty) Ltd**
3. Course cancellations notified in writing not less than 21 days prior to course commencement will receive a refund less a 10% cancellation fee. Refunds will not be made within any lesser period unless the course is cancelled. A substitute delegate prior to course commencement is allowed. Acceptance of bookings, cancellation and refund policies are conditions of registration.
4. exida reserves the right to cancel the course upon written notification to the registered delegates.

PLEASE COMPLETE THIS FORM AND SEND TO:

Exida South Africa cvahl@exida.com	**Ph. +27 31 267 1564** **www.exida.com**

I _____ (name & surname) hereby confirm that I accept and agree with all information as well as terms and conditions stated on the Booking form (and will participate at the **IEC 61511: Functional Safety Analysis, Design, and Operation Training Course** to be held from 22nd – 25th July 2024.

Signed		Date	