



Industrial Safety: HAZOP, LOPA and SIL

21,22 February 2025

Reducing Risks from Design to Operation



Course Overview:

This E-Certificate Course encompasses the methodologies, procedures, and terms of reference necessary for the execution of HAZOP, SIL, LOPA, and Functional Safety assessments.

HAZOP – is a qualitative method employed to identify hazards in processes and potential operational issues by utilizing a set of guide words to examine process deviations. It serves as a thorough review technique applicable to both batch and continuous operations, and can be utilized for both new and existing processes to pinpoint hazards.

LOPA – (Layers of Protection Analysis) is a powerful analytical tool to assess the adequacy of Independent Protection Layers (IPL) to protect against a hazardous event. It is to identify the counter-measures available against the potential consequences of a particular risk.

SIL – The assignment of a SIL value addresses the need to provide safeguard, mitigation or protection layers matching the potential hazards of the processes, including the failure of the instrumented systems. SIL is a measure of the reliability of the respective Safety Instrumented System (SIS) that has a Safety Instrumented Function (SIF).

Course outline:

- ❖ Functional Safety
- ❖ Process Hazard Analysis (PHA)
- ❖ Risk Matrix
- ❖ Overview of HAZOP, LOPA
- ❖ HAZOP Methodology
- ❖ SIL Allocation & Verification
- ❖ Enabling /Conditional Modifiers
- ❖ Evaluation of HAZOP, LOPA

Who should attend:

Academic: Faculty and Students of Chemical/ Petroleum/ Production/ Mechanical/ Industrial/ Manufacturing/ Automobile Engineering

Industry: HSE, Plant & Facility Managers and Engineers

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Course Fee per person :

Category	India (₹)	Outside India (US\$)
Industry	2360	200
Faculty	885	100
Students	295	50
	Inclusive of GST	



Beneficiary : Director
 CEST Anna University
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Trainers: Dr. Balasubramanian, N; Dr. Dharmendra Kumar, M
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Please visit <https://www.annauniv.edu/CEST/> for further details

Last date for Registration
20.01.2025

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