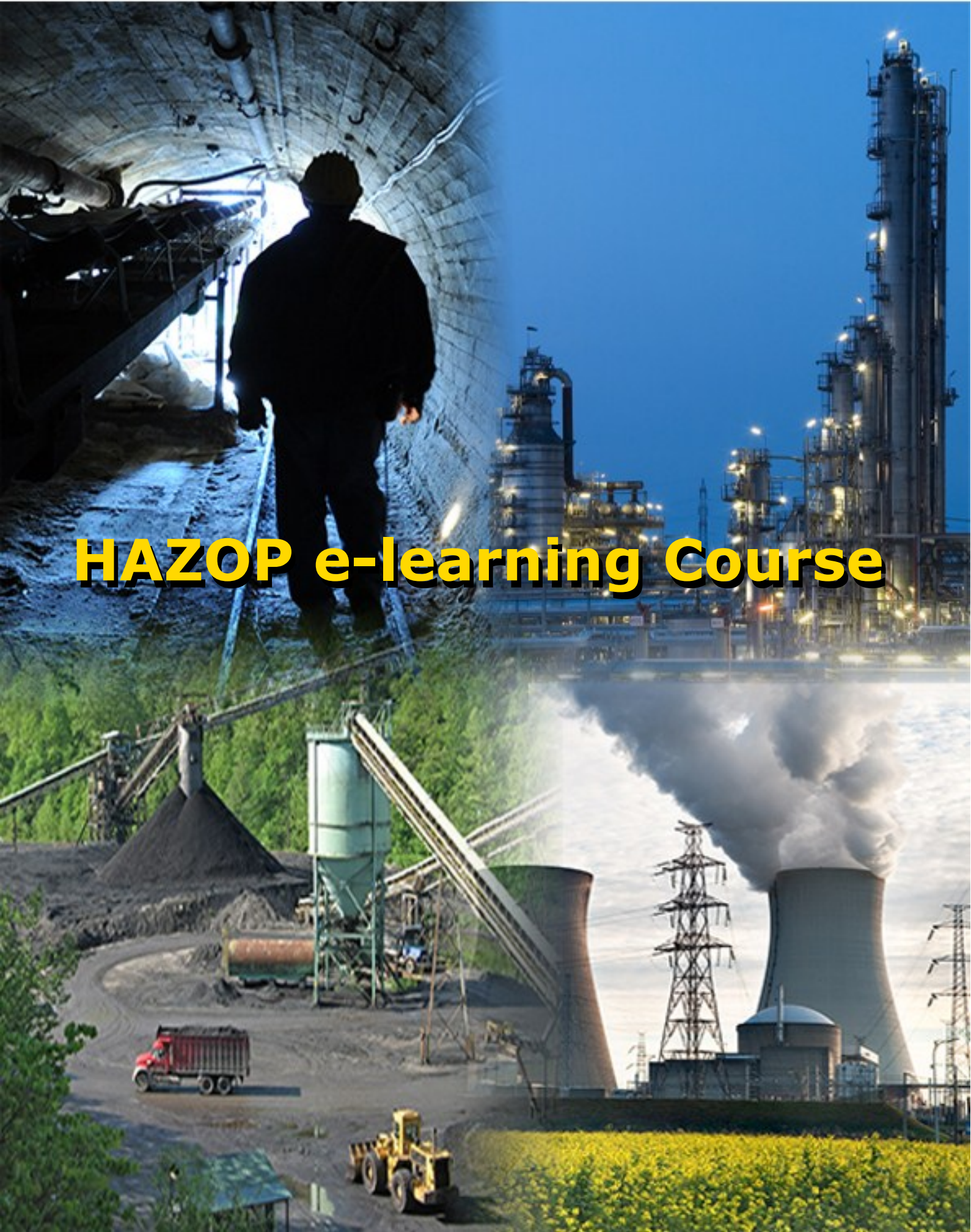


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**Discover the power of e-learning!**

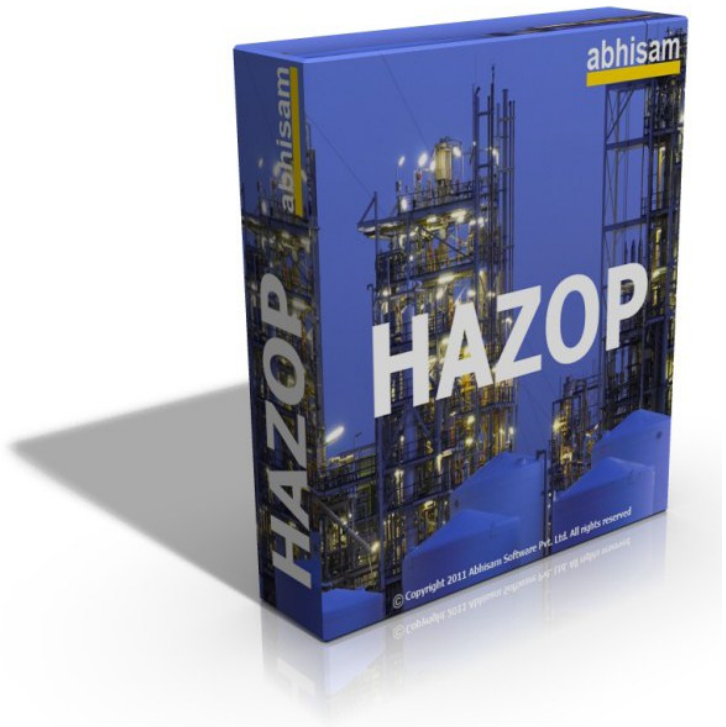
# HAZOP e-learning Course





## Introduction

HAZOP is short for Hazard and Operability Study. HAZOP is a widely used risk assessment and risk management technique all over the world in a wide array of industries like Oil & Gas, Chemicals, Pharmaceuticals, Food & Beverage, Power generation and many others. Though the technique is widely used, there are hardly any resources available for somebody to learn and master the technique. Currently available resources are either printed books (many of which were written ages go and are either out of print, or not very relevant to today's industrial operations) or some white papers floating on the internet or a few classroom style training courses (which may not be at a convenient location or time).



Hence Abhisam Software has come out with this stunning e-learning course on HAZOP, that is not just another textbook, but a full fledged e-learning course which has animated simulations, videos, interactive exercises and other material that make learning a subject (even like HAZOP) fun and easy! The course consists of about 160 pages of rich media and matter made with inputs from the world's leading experts in the HAZOP technique who have a total of several person-years of experience in conducting HAZOPs.

So if you're tired of trawling the internet for some good learning material on HAZOP, or you find the available texts boring, or out of date-this is the solution that you're looking for! What's more-unlike a classroom training course that will fade away from memory after some time, this e-learning course is available to you on your PC or laptop 24 X 7. It gets installed on your computer for as long as you wish, without any time limits at all!

If you wish to deliver this course to a large number of people (like for examples your employees or colleagues), then you can even opt for our hosted version. In this version nobody has to download anything at all, simply login to our Learning Management System over the internet and take the course! We will provide all compliance info including learner login times and scores, for your training records.



The following is a Table of Contents of the HAZOP e-learning course.

## MODULE 1 - Basic Concepts

- Introduction
- What is HAZOP
- More about HAZOP
- Use of HAZOP
- History of HAZOP
- History of HAZOP contd
- HAZAN
- HAZOP and HAZAN
- FMEA
- Hazards and Risks
- Types of Hazards-Fire & Explosion
- Types of Hazards-Toxic Materials
- Preliminary Hazard Analysis
- Consequence Analysis
- Risk & Harm
- Risk Graph
- Risk Reduction
- Risk Reduction-2
- The ALARP Principle
- Risk Reduction in Process Plants
- Risk Reduction explained
- Risk & Cost Calculations for bean counters
- Examples - Cost Justification
- Layers of Protection
- Layers of protection in the Process Industries
- Diversity
- Diversity - Example
- Preventive and Mitigative Layers

## MODULE 2 - HAZOP Methodology

- Introduction
- Intentions & Deviations-1
- Causes & Consequences
- Benign Consequences
- Method Outline
- Node Identification
- Guide Words
- Parameter Deviations
- Deviation Recognition
- Why deviation recognition fails
- Deviation example video findings
- Types of Deviations-1
- Example-Chlorine-1
- Example-Chlorine-2
- Types of Deviations-2
- Types of Deviations-3
- Types of Deviations-4
- CIP Example
- SOP Deviations Examples
- Tanker Unloading Example
- Normal Operations
- Guide Word High
- Deviation & Consequence
- Guide Word High
- Deviation & Consequence
- Guide Word Low
- Deviation & Consequence
- Guide Word Low
- Deviation & Consequence
- Guide Word Low
- Deviation & Consequence
- Guide Word Reverse
- Deviation & Consequence
- Guide Word Other Than
- Deviation & Consequence
- Before starting the HAZOP
- Other Documents
- HAZOP Worksheet



- HAZOP Worksheet
- Guide Word High
- Guide Word Low
- Guide Word Reverse
- Guide Word Other Than
- HAZOP Recommendations
- HAZOP Recommendation Sheet-1
- HAZOP Recommendation Sheet-2
- The P & ID after HAZOP
- Summary
- Boolean Logic & Safety-1
- Boolean Logic & Safety-2
- Protection Measures
- Additional measures
- Boolean Logic & HAZOP
- HAZOP & Human Errors
- HAZOP Limitations

## MODULE 3 - HAZOP Types, Standards & Legal Requirements

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- HAZOP Standards-IEC 61882
- ISO 14001
- HAZOP & ISO 14001
- HAZOP as as legal requirement
- The Seveso Directives
- HAZOP-OSHA
- HAZOP-UK HSE
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- Greenfield HAZOPs
- Various Stages
- Concept HAZOP
- Concept HAZOP Worksheet
- Concept HAZOP Worksheet-1
- Concept HAZOP Worksheet-2
- Concept HAZOP Worksheet-3
- Basic Design HAZOP
- Basic Design HAZOP Worksheet-1
- Basic Design HAZOP Worksheet-2
- Basic Design HAZOP Worksheet-3
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- Brownfield HAZOP Process
- CHAZOP
- Need for CHAZOP
- CHAZOP Methodology
- Typical CHAZOP Format
- CHAZOP Example-Part 1
- CHAZOP Example-Part 2
- CHAZOP Example-Part 3
- CHAZOP Summary





## MODULE 4 - Managing HAZOPs

- Why is managing HAZOPs so important?
- Why is managing HAZOPs so important?
- Management Support
- Management Support-Example
- HAZOP Team
- HAZOP Team-Example
- Team Work
- HAZOP Consultants
- Role of HAZOP Leader
- Role of HAZOP Secretary
- Role of HAZOP team members
- Number of team members
- Team Skill Level
- HAZOP Documentation
- Auditing a HAZOP

## MODULE 5 - Case Study

- The Process Description
- The Plant
- The P & ID
- Carrying out the HAZOP
- HAZOP Worksheet-1
- HAZOP Worksheet-2
- HAZOP Worksheet-3
- HAZOP Recommendation Sheet-1
- HAZOP Recommendation Sheet-2
- The P & ID after HAZOP
- The Audit of the HAZOP
- An actual incident
- Learnings from the incident
- A final word

## Module 6 - Self Assessment Test

This self-assessment test helps learners evaluate their own knowledge about HAZOP. The test consists of several questions.

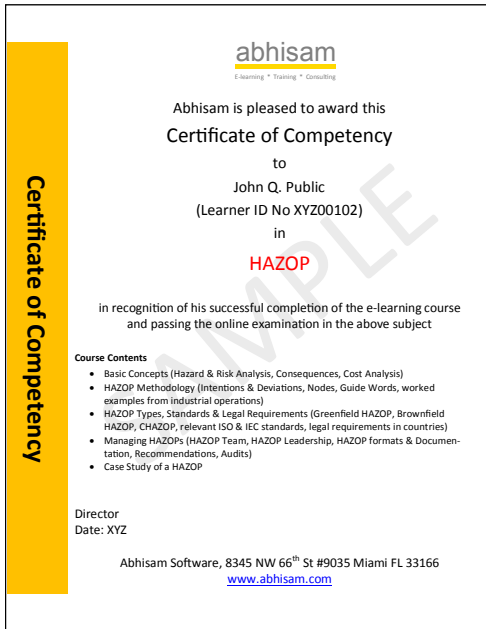
## Online Certification Exam

After completing the HAZOP e-learning course, the learner can take the Abhisam Online Certification Exam. Every learner will have a unique Login and password. Questions are of various types, pulled in from a large database developed by Abhisam. On passing, the learner earns a Certificate of Competency in HAZOP. The Certificate bears the unique ID number of the learner and can be furnished as a proof of training and competency in HAZOP to current and prospective employers and/or clients.





## Sample Certificate



## HAZOP Demo

By now you have seen how detailed and comprehensive the course is. A brief demo of the HAZOP course can either be viewed online or downloaded from the Abhisam website. Please click <http://www.abhisam.com/freetrialcourses.htm> to do this.

## Demo of the full version

If you need a demo of the full version (say for presenting to your management), we can arrange a live online demo, where we will step you through the entire course. This will require a high speed internet connection at your end.

## AVAILABLE VERSIONS

The HAZOP e-learning course is available in several versions as outlined below. The contents are the same in all these versions, only the delivery is different.

### Standard Version (Single PC license, Windows)

This version allows the learner to download and install the course on any one PC/laptop running Windows OS (XP, Vista, 7 or 8). It also includes one seat for the online exam and certification. Internet access is required for license activation and periodic verification. The online exam must be taken within one year of purchase of the license.

### Professional Version (Dual PC license, Windows)

This version allows the learner to download and install the course on any TWO PCs/laptops running Windows OS (XP, Vista, 7 or 8). It also includes one seat for the online exam and certification. Internet access is required for license activation and periodic verification. The online exam must be taken within one year of purchase of the license.

## Online Version (Windows, Mac or tablets)

This version is for those users who do not wish to install the course on their PCs/laptops/Macs. Access is online through our web based Learning Management System, using a standard browser such as Internet Explorer or Mozilla Firefox. The browser must allow Flash content to display animations. Access is also possible via tablets (however Flash has to be enabled on the tablet). Access is for a period of ONE WEEK. This version includes one seat to take the online exam and certification.











## Enterprise Version (Cloud based)

This version is for enterprises who wish to train their employees in HAZOP. Every learner gets access to the online version of HAZOP on our Learning Management System via a standard browser such as Internet Explorer or Mozilla Firefox. Access is also possible via tablets (however Flash has to be enabled on the tablet). The Enterprise version is available for groups of 10 or more learners. Access is valid for a period of ONE YEAR and includes an exam seat and certification for every learner.

## SCORM version

For enterprises that have their own SCORM compatible Learning Management Systems (LMS), we also have a SCORM version. This enables the HAZOP e-learning course to be run in their own LMS. Only a license file needs to be uploaded to the LMS. The course is streamed directly from our server to the client's LMS.

## VERSIONS

Feature	Online	Standard	Professional	Cloud	SCORM
All Modules	✓	✓	✓	✓	✓
Self Assessment Test	✓	✓	✓	✓	✓
Online Exam & Certification	✓	✓	✓	✓	✓
Access	Online access only	Download to any one PC/laptop	Download to any TWO PCs/laptops	Online access only	Via your own LMS
Access Duration	One week	Three Years	Three Years	One Year	One Year
Operating Systems*	 or  or 			 or  or 	 or 
Devices*	PC/Laptop/Mac/Tablet	PC	PC	PC/Laptop/Mac/Tablet	PC/Laptop/Mac
Ideal for	Individuals	Individuals	Individuals	Organizations	Organizations

\* The Tablet Device should allow Flash (swf) files to run. The courses can be viewed on the iPad only with the Puffin browser (which allows Flash to run).



## MORE INFORMATION

For more information, please get in touch with us.

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