

## **PHA110 – HAZOP introduction – Modular**

### **Course description**

PHA110 is xSeriCon's distance learning course on HAZOP. It is provided in the form of 7 standalone modules for self-study with optional tutor support. Visit <https://www.xsericon.world> for details of the time required to complete each module, tutor support available, pricing, and sample materials for free download.

### **Background**

As a powerful and effective hazard identification method, HAZOP has become the industry standard, especially for new build process facilities. However, it often becomes an expensive and time-consuming exercise that eats up engineering resources and impacts the project's time line. To ensure HAZOP works effectively and gives the most valuable output, it's essential that all participants understand the principles, workflow, and limitations of the procedure. xSeriCon's HAZOP modular training materials will help your personnel to prepare better, work more quickly, and get the most out of the HAZOP activity.

### **Who will benefit from this course?**

- Process engineers
- Instrument engineers
- Project engineers
- Vendor package engineers
- Anyone training to become a HAZOP facilitator or scribe

### **What does the course cover?**

- Introduction to HAZOP and other Process Hazards Analysis methodologies
- What HAZOP is suitable for, and how to select a different methodology
- Who should participate in a HAZOP study
- Preparation and input documents needed
- Basis of the study and assumptions made
- HAZOP methodology
- HAZOP recommendations
- Outputs of the HAZOP study and how they are applied to future safety lifecycle activities

### **Typical problems the course will help you to avoid**

- Inadequate preparation, leading to delays
- Unnecessary manpower spent on HAZOP workshops
- Workshop overruns
- Excessive or over-generalised recommendations from the HAZOP study
- HAZOP results that aren't detailed enough to support later studies

### Course outline

| Module number | Module title                             | Topics covered   |
|---------------|--|--|
| 1             | Introduction to Process Hazards Analysis | <ul style="list-style-type: none"> <li>• What is PHA?</li> <li>• How does it fit into the safety lifecycle?</li> <li>• What PHA techniques are available?</li> <li>• How to select an appropriate PHA technique such as HAZOP, Checklist, and What-If</li> </ul>   |
| 2             | Preparation for HAZOP                    | <ul style="list-style-type: none"> <li>• The strengths and limitations of HAZOP</li> <li>• What input documents are required?</li> <li>• What the HAZOP procedure must contain</li> <li>• Who should attend the HAZOP workshop</li> <li>• How long does HAZOP take?</li> <li>• What resources are required?</li> </ul> |
| 3             | Overview of HAZOP workshop methodology   | <ul style="list-style-type: none"> <li>• Defining and dividing the scope</li> <li>• Selecting nodes</li> <li>• Workflow</li> <li>• HAZOP ground rules and assumptions</li> <li>• How HAZOP is documented</li> </ul>  |
| 4             | Detailed rules and pitfalls              | <ul style="list-style-type: none"> <li>• How to correctly identify and record 'causes', 'consequences' and 'safeguards'</li> <li>• Typical errors to avoid</li> </ul>  |
| 5             | Reporting HAZOP                          | <ul style="list-style-type: none"> <li>• Generating meaningful recommendations</li> <li>• Developing the HAZOP report</li> <li>• Action items</li> <li>• Feeding data into later safety lifecycle activities</li> </ul>  |
| 6             | HAZOP for special purposes               | <ul style="list-style-type: none"> <li>• Vendor package HAZOP</li> <li>• HAZOP of changes and upgrades</li> <li>• Introduction to HAZOP for batch mode processes and sequences</li> </ul>  |
| 7             | HAZOP efficiency                         | <ul style="list-style-type: none"> <li>• Developing a better HAZOP procedure</li> <li>• How to speed up the workshop</li> <li>• The facilitator's role</li> <li>• The scribe's role</li> <li>• Efficient closeout of recommendations</li> </ul>  |