



**Scandinavian  
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Training Center

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## Course: Calibration Technology

Code	City	hotel	Start	End	price	Language - Hours
807	Abha	Hotel Meeting Room	2025-12-14	2025-12-18	11450 SR	En - 25

### PROGRAMME SUMMARY

As more and more companies are depended on instruments and instrument is having impact on the production processes and ensuring the quality of products being manufactured by company, there is a growing demand for Instrument Calibration Engineers with specialized knowledge for calibration to increase knowledge and skill on instrument calibration as per the global standards. In this program, you will learn the calibration of various instruments in thermal; electrotechnical and mechanical (which covers dimensional, pressure, mass and weighing balances, force, torque, volume, speed, density and viscosity, force etc.) areas, with the specialization in -calculation of measurement uncertainty, preparation and issue of calibration certificate. It also covers the environment condition to be maintained during the calibration etc.

The `Dimensional Measurement - Certified Calibration Laboratory Engineer` e-learning course introduces dimensional metrology, improves measurement behaviors and supports good measurement practice. In addition, it explores the relevance of Dimensional Measurement to all stages of the engineering process.

### OBJECTIVE

- Basic knowledge of calibration such as requirements of calibration, why do we need calibration, equipment selection, types of equipment's, etc..
- Understand requirement of ISO/IEC 17025:2017 for measurement uncertainty.
- Understand theory of uncertainty of measurement, selection of uncertainty measurement factors, and calculation of measurement uncertainty.
- Understand the relevance of instrument measurement, including the use of



instrument.

- Understand technical requirements and calibration method for relevant instruments.
- Preparation of calibration certificates and work sheet.

## WHO SHOULD ATTEND

- Professionals, technicians and management in measurement or related roles
- Metrology technicians and managers
- Quality technicians and managers
- Quality technicians and engineers
- Calibration technicians and engineers

## THE SCIENTIFIC CONTENT OF THE PROGRAM

- Introduction to Measurement & Calibration
- Precision Electrical Measurement
- Precision Dimensional Measurement
- Precision Temperature Measurement
- Precision Pressure/Vacuum Measurement
- Precision Torque/Force Measurement
- Precision Time/Frequency Measurement
- Measurement Uncertainty
- General introduction to calibration and its objectives
- Explanation of terminology used e.g. Precision, Accuracy, Traceability.
- Selection of measurement tools, gages and instruments and interpretation of accuracy statements
- Dealing with non-conforming instruments
- Exercises calculating the Tolerance Accuracy Ratio - TAR
- Exercises calculating the Tolerance Uncertainty Ratio - TUR
- Interpretation of calibration certificates



- Examples of Instrument calibration
- Questions and Answers on most commonly used instruments
- Developing a calibration system - interpretation, evaluation and traceability to calibration standards



The Scandinavian Academy for Training Center adopts the latest scientific and professional methodologies in training and human resource development, aiming to enhance the efficiency of individuals and organizations. Training programs are delivered through a comprehensive approach that includes:

- Theoretical lectures supported by PowerPoint presentations and visual materials (videos and short films).
- Scientific evaluation of participants before and after the program to measure progress and knowledge acquisition.
- Brainstorming sessions and practical role-playing to simulate real-life scenarios.
- Case studies tailored to align with the training content and participants work nature.
- Assessment tests conducted at the end of the program to evaluate the achievement of training objectives.

Each participant receives the training material (both theoretical and practical) in printed form and saved on a CD or flash drive. Detailed reports, including attendance records, final results, and overall program evaluations, are also provided.

Training materials are prepared professionally by a team of experts and specialists in various fields. At the end of the program, participants are awarded a professional attendance certificate, signed and accredited by the Scandinavian Academy for Training Center.

### **Program Timings:**

- 9:00 AM to 2:00 PM

### **The program includes:**

- A daily buffet provided during the sessions to ensure participants comfort.
- A closing ceremony on the final day to distribute certificates and celebrate participants achievements.