Energy, Electrical Engineering

SCANDINAVIAN ACADEMY
Training and Development

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Course: Calibration Technology

Code	City	hotel	Start	End	price	Hours
807	Tbilisi (Georgia)	Hotel Meeting Room	2024-08-05	2024-08-09	5450 €	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.

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

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 Scandinavian Academy employs modern methods in training and skills development, enhancing the efficiency of human resource development. We follow these practices:

- **Theoretical Lectures:**
  - We deliver knowledge through advanced presentations such as PowerPoint and visual materials, including videos and short films.
- **Scientific Assessment:**
  - We evaluate trainees skills before and after the course to ensure their progress.
- **Brainstorming and Interaction:**
  - We encourage active participation through brainstorming sessions and applying concepts through role play.
- **Practical Cases:**
  - We provide practical cases that align with the scientific content and the participants specific needs.
- **Examinations:**
  - Tests are conducted at the end of the program to assess knowledge retention.
- **Educational Materials:**
  - We provide both printed and digital scientific and practical materials to participants.
- **Attendance and Final Result Reports:**
  - We prepare detailed attendance reports for participants and offer a comprehensive program evaluation.
- **Professionals and Experts:**
  - The programs scientific content is prepared by the best professors and trainers in various fields.
- **Professional Completion Certificate:**
  - Participants receive a professional completion certificate issued by the Scandinavian Academy for Training and Development in the Kingdom of Sweden, with the option for international authentication.
- **Program Timings:**
  - Training programs are held from 10:00 AM to 2:00 PM and include buffet sessions for light meals during lectures.