

Scandinavian Academy
Training Center

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Riyadh - Al Khaleej District - Sheikh Abdul Aziz Bin Abdul Rahman Bin Bishr Street - 13223 - Office No. 5 | P.O.BOX : 13224

# Course: Metrology Applications

| Code | City | hotel | Start | End | price | Language - Hours |
|---|---|---|---|---|---|---|
| EE-809SA | Jeddah | Hotel Meeting Room | 2027-09-19 | 2027-09-23 | 12950 SR | En - 25 |

## PROGRAMME SUMMARY

Metrology is the scientific study of measurement. It establishes a common understanding of units, crucial in linking human activities. Modern metrology has its roots in the French Revolution`s political motivation to standardize units in France when a length standard taken from a natural source was proposed. This led to the creation of the decimal-based metric system in 1795, establishing a set of standards for other types of measurements. Several other countries adopted the metric system between 1795 and 1875; to ensure conformity between the countries, the Bureau International des Poids et Mesures (BIPM) was established by the Metre Convention.

Metrology is the science of measurement and its application. NIST`s work in metrology focuses on advancing measurement science to enhance economic security and improve quality of life.

Almost all of NIST’s research has a metrology component to it. NIST’s metrology-related resources and activities include  calibrations, standard reference materials, standard reference data, test methods, proficiency evaluation materials, tools that facilitate the evaluation of measurement uncertainty, measurement quality assurance programs, and laboratory accreditation services that assist customers in establishing traceability of measurement results.

A key component of NIST’s metrology work is metrological traceability, which requires the establishment of an unbroken chain of calibrations to specified reference measurement standards: typically national or international standards, in particular realizations of the measurement units of the International System of Units (SI).

NIST assures the traceability to the SI, or to other specified standards, of measurement

results that NIST itself provides, either directly or through an official NIST program or collaboration. Other organizations are responsible for establishing the traceability of their own results to national reference standards maintained by NIST or to other specified reference standards. Learn more about metrological traceability.

## OBJECTIVE

- Identify and analyze the factors affecting performance of measuring system
- Choose appropriate instruments for the measurement of voltage, current in ac and dc measurements
- Principal of operation and construction of basic instruments for measurement of Electrical quantities
- Sources of errors in measurement system
- Standards used in measurement system

## WHO SHOULD ATTEND

- All levels of technicians.
- Beginner in ELECTRICAL ENGINEERING
- Beginner technicians' electrical measurements and instrumentation
- Beginner in Electrical instruments
- Beginner in Measurement system

## THE SCIENTIFIC CONTENT OF THE PROGRAM

- Introduction of metrology.
- Introduction measurement system.
- Characteristics of measurement system.
- Dynamic characteristics.
- Measurement standards and their classifications.
- Errors in measurement.
- Sources of error.

- Calibration in meters.
- Classification of instrument.
- Precision Measurement
- Units and Standards of Length
- Errors in Measurement
- Types of Basic Measuring Equipment
- Practical Introduction to Measuring Instruments
- Interpretation of Engineering Drawings
- Case studies and solving examples.

**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.
- **Note: All prices are exclusive of 15% Value Added Tax (VAT).**

# Our Success Partners

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