



ISO/IEC 17025 Foundation Certification Course

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Course Overview:

The ISO/IEC 17025 Foundation Certification Training course is designed to help participants understand the essential principles, structure, and practical application of a Laboratory Management System LMS based on ISO/IEC 17025. This ISO/IEC 17025 Foundation Training introduces the core requirements used by testing and calibration laboratories to demonstrate competence, impartiality, consistent operations, and reliable results. Based on the PECB ISO/IEC 17025 Foundation approach, the course helps learners understand LMS policy, procedures, performance measurements, management commitment, internal audit, management review, and continual improvement, which are key areas highlighted in the PECB Foundation material.

Through this ISO 17025 Foundation Course, participants gain awareness of laboratory accreditation expectations, documentation structures, control of records, technical records, quality procedures, and evidence-based laboratory practices. The IAEA documentation material supports the course by explaining how documents, procedures, records, quality manuals, SOPs, and master lists contribute to operating an effective quality management system.

This ISO/IEC 17025 Foundation Certification course is ideal for professionals seeking a practical introduction to ISO/IEC 17025 Requirements Training, Laboratory Management System Training, and Testing and Calibration Laboratory Training.

Target Audience:

- Laboratory managers and supervisors
- Quality managers and quality officers
- Testing and calibration laboratory personnel
- Laboratory technicians and analysts
- Compliance and accreditation coordinators
- Internal audit team members
- Technical managers and section heads
- New professionals pursuing laboratory management careers
- Professionals preparing for PECB ISO 17025 Foundation
- Employees involved in ISO/IEC 17025 Laboratory Management System activities



Targeted Organizational Departments:

- Quality Assurance and Quality Control departments
- Testing and Calibration Laboratory units
- Laboratory Operations departments
- Accreditation and Compliance teams
- Technical Services departments
- Research and Development laboratories
- Regulatory Affairs departments
- Internal Audit and Risk Management teams
- Documentation and Records Control units
- Training and Competency Management departments

Targeted Industries:

- Testing and calibration laboratories
- Healthcare and medical laboratories
- Pharmaceutical and biotechnology organizations
- Food testing and safety laboratories
- Environmental testing laboratories
- Oil, gas, and petrochemical laboratories
- Manufacturing and industrial testing facilities
- Construction materials testing laboratories
- Energy and utilities laboratories
- Government and regulatory laboratories
- Academic and research laboratories
- Certification, inspection, and conformity assessment bodies

Course Offerings:

By the end of this course, participants will be able to:



- Understand the purpose and scope of ISO/IEC 17025 Foundation and its relevance to laboratory competence.
- Explain the main components of an ISO/IEC 17025 Laboratory Management System.
- Identify the relationship between ISO/IEC 17025, accreditation, and regulatory expectations.
- Recognize key LMS requirements, including policy, procedures, records, internal audits, and management review.
- Understand the structure of quality manuals, SOPs, procedures, forms, and technical records.
- Describe document control principles, including approval, review, revision status, distribution, and obsolete document control.
- Explain the role of technical records, traceability, sampling records, equipment records, and validation records.
- Prepare for the PECB Foundation Training Course by understanding the basic exam domains: fundamental LMS principles and Laboratory Management System requirements.

Training Methodology:

The ISO/IEC 17025 Foundation Certification Training uses a practical, discussion-based methodology designed for professionals who need clear understanding rather than advanced implementation depth. The course combines instructor-led explanation, guided clause walkthroughs, laboratory examples, group discussions, short knowledge checks, and scenario-based exercises. Participants explore how ISO/IEC 17025 Requirements Training applies to real testing and calibration laboratory situations, including documentation, competence, impartiality, confidentiality, equipment control, technical records, and management system evidence.

Case studies are used to connect ISO 17025 Foundation Training concepts with workplace challenges such as uncontrolled documents, missing calibration records, unclear responsibilities, incomplete SOPs, and weak evidence during accreditation reviews. Group work allows participants to review sample procedures, identify document control gaps, and discuss how laboratory records support reliable results. Interactive sessions help learners understand the difference between documents and records, a distinction emphasized in the IAEA material, where documents guide actions and records prove process results.

The methodology supports both awareness and exam preparation by aligning practical LMS examples with the PECB ISO/IEC 17025 Foundation learning objectives and certification structure.

Course Toolbox:

- LMS terminology and concept reference guide
- ISO/IEC 17025 clause awareness checklist
- Laboratory Management System structure map
- Document control checklist
- Records control checklist
- Quality policy and quality objectives examples
- Procedure structure sample
- SOP and work instruction examples
- Master list of documents example
- Internal audit awareness checklist
- Management review discussion guide
- Exam preparation notes for PECB Certified ISO/IEC 17025 Foundation
- Practical examples inspired by testing and calibration laboratory documentation requirements

Note: tools are not provided as physical or software tools; the course provides insights, examples, templates, and practical references relevant to ISO/IEC 17025 Foundation Certification Training.

Course Agenda:

Day 1: Introduction to ISO/IEC 17025 and Laboratory Management Systems

- **Topic 1:** Overview of **ISO/IEC 17025 Foundation** and its role in testing and calibration laboratories
- **Topic 2:** Purpose of an **ISO/IEC 17025 Laboratory Management System**
- **Topic 3:** Key terms: competence, impartiality, confidentiality, consistency, and reliable results
- **Topic 4:** Relationship between ISO/IEC 17025, accreditation, and regulatory frameworks
- **Topic 5:** Main LMS elements: policy, procedures, records, performance measurement, and improvement
- **Topic 6:** PECB ISO/IEC 17025 Foundation learning path, exam scope, and certification expectations
- **Reflection & Review:** Review of ISO 17025 Foundation concepts and their practical value for laboratories



Day 2: Structure and Core Requirements of ISO/IEC 17025

- **Topic 1:** General, structural, resource, process, and management system requirements
- **Topic 2:** Laboratory impartiality and confidentiality requirements
- **Topic 3:** Organizational structure, responsibilities, and authority in laboratory operations
- **Topic 4:** Resource requirements: personnel, facilities, equipment, traceability, and suppliers
- **Topic 5:** Process requirements: requests, methods, sampling, handling, technical records, and reporting
- **Topic 6:** Management system requirements: documentation, internal audit, management review, and improvement
- **Reflection & Review:** Group discussion on how ISO/IEC 17025 Requirements Training supports accreditation readiness

Day 3: Documentation, Procedures, and Document Control

- **Topic 1:** Difference between documents and records in Laboratory Management System Training
- **Topic 2:** Quality policy, quality objectives, and management commitment
- **Topic 3:** Quality manual, procedures, work instructions, SOPs, forms, and records
- **Topic 4:** Document control: approval, review, revision status, access, distribution, and obsolete documents
- **Topic 5:** Internal and external documents, including standards, regulations, manuals, and calibration references
- **Topic 6:** Master list of documents and document ownership responsibilities
- **Reflection & Review:** Review of documentation gaps that can affect ISO 17025 Foundation compliance awareness



Day 4: Records, Technical Evidence, and Laboratory Control Activities

- **Topic 1:** Control of records: identification, storage, protection, backup, retrieval, retention, and disposal
- **Topic 2:** Technical records: original observations, data, calculations, results, and amendments
- **Topic 3:** Personnel competence records, training evidence, authorization, and monitoring
- **Topic 4:** Equipment records, calibration status, intermediate checks, and traceability evidence
- **Topic 5:** Records for sampling, method verification, validation, uncertainty, and validity of results
- **Topic 6:** Nonconforming work, complaints, corrective action, risk assessment, and improvement records
- **Reflection & Review:** Practical review of how records demonstrate fulfillment of ISO/IEC 17025 requirements

Day 5: LMS Performance, Audit Awareness, Management Review, and Exam Preparation

- **Topic 1:** Internal audit awareness for ISO/IEC 17025 Foundation participants
- **Topic 2:** Management review inputs, outputs, decisions, and improvement actions
- **Topic 3:** Performance measurement and continual improvement in laboratory quality systems
- **Topic 4:** Accreditation readiness: common foundation-level gaps and corrective actions
- **Topic 5:** PECB Foundation exam domains: fundamental LMS principles and Laboratory Management System requirements
- **Topic 6:** Consolidated review of ISO/IEC 17025 Foundation Certification concepts
- **Reflection & Review:** Final recap, participant questions, and preparation guidance for the PECB Foundation Training Course

FAQ:

What specific qualifications or prerequisites are needed for participants before enrolling in the course?

No formal prerequisites are required for this ISO/IEC 17025 Foundation Course. The PECB Foundation material states “None” under prerequisites. However, basic familiarity with laboratory operations, testing, calibration, quality management, or compliance activities will help participants connect the course concepts to workplace practice.



How long is each day's session, and is there a total number of hours required for the entire course?

Each day's session is generally structured to last around 4-5 hours, with breaks and interactive activities included. The total course duration spans five days, approximately 20-25 hours of instruction.

Is ISO/IEC 17025 Foundation the same as ISO/IEC 17025 Lead Implementer or Lead Assessor?

No. ISO/IEC 17025 Foundation Certification Training focuses on awareness, terminology, principles, LMS structure, and basic requirements. Lead Implementer training is deeper and focuses on implementation, project planning, and maintaining the LMS. Lead Assessor training focuses on assessment/audit planning, conducting assessments, reporting findings, and managing audit programs. The Foundation course is the best starting point for professionals new to ISO/IEC 17025 or preparing for the PECB Certified ISO/IEC 17025 Foundation credential.

How This Course is Different from Other ISO/IEC 17025 Foundation Certification Training Courses:

This ISO/IEC 17025 Foundation Certification Training stands out because it connects the PECB ISO/IEC 17025 Foundation structure with practical laboratory examples that professionals can immediately understand and apply. Instead of presenting ISO/IEC 17025 as a purely theoretical standard, the course explains how the ISO/IEC 17025 Laboratory Management System works inside real testing and calibration laboratories: how policies guide direction, how procedures control activities, how records prove compliance, and how management review supports improvement.

The course also gives strong attention to documentation and records, which are often confusing areas for Foundation-level participants. The IAEA documentation material highlights the importance of document control, technical records, quality manuals, SOPs, forms, master lists, and retention practices, and these concepts are translated into practical learning activities throughout the agenda.

Unlike generic ISO 17025 Training Course content, this program is structured for corporate learning: concise explanations, workplace scenarios, accreditation-focused discussions, guided reviews, and exam-aware reinforcement. It supports both awareness and preparation for ISO/IEC 17025 Foundation Certification, making it suitable for quality teams, laboratory staff, technical personnel, and professionals pursuing a career in laboratory management.



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