



# **Tanzania Bureau of Standards**

## **Training Catalogue**

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## Foreword

Tanzania Bureau of Standards is a parastatal organization established under the Ministry of Industry and Trade by Act of Parliament No. 3 of 1975 and later repealed by Standards Act 2 of 2009. TBS was established as part of the efforts by the government to strengthen the supporting institutional infrastructure for the industry and commercial sectors of the economy. Specifically, TBS is mandated to undertake measures for quality control of products of all descriptions and promote standardization in industry and commerce.

Through the training Section, TBS has engaged in embarking useful skills in the area of standardization and Quality Management since its operation on 16<sup>th</sup> April 1976 where thousands of personnel in different disciplines have been trained by our unit and the numbers continue to grow with every passing year. We proudly continue to provide our training services through our outcomes-based courses. Our course structures have been diversified to keep pace with industry demands and new courses are being introduced annually using the cutting-edge learning and development approach. Notwithstanding our training unit is striving to provide an up-to-date course(s) which will foster **anchoring of quality and standards for competitiveness** of our products and services in both domestic and global market

Through this training catalogue, we are proud to share with you, our valued customer, our newly revamped Training Programs with aesthetics that are not only pleasing to the eye but also provide an environment that stimulates learning and knowledge transfer.

We are once more delighted and gratified to bring to you excellence in knowledge, training and skills development. We continue to provide outstanding and professional training services to all our customers. To ensure that our training remains relevant and maximizes your return on investment, we will still continue and strive to offer our services as an active partner at both executive and operational levels.

We pledge to honour our commitment in providing knowledge, talents and experiences, not only nationally, but also to our neighbouring EAC countries and all interested parties. Our competitive edge is in the expertise at our disposal.

As part of our continual improvement, we will be delivering to you **training schedules** in each quota of the financial year to assist you with better planning. As the need may be **new courses** that meet the requirements of our valued customers will be developed and therefore this course catalogue will be updated regularly.

Currently, our course offerings cover the following areas but not limited to:

- ❖ ISO 9001, Quality Management Systems
- ❖ ISO 14001, Environmental Management System
- ❖ ISO 22000, Food safety management system
- ❖ ISO 17025, General Requirements for the competence of testing and calibration laboratories
- ❖ Total Quality Management
- ❖ Standardization
- ❖ Customized Quality Assurance Courses

Also, note that all courses listed in this catalogue can be customized and presented at your premises by arrangement with our Training Unit. TBS has a remarkable history of serving our country in the area of Quality Management and Standardization for more than 35 years and continues to do so with great success. We are, therefore, proud to present our Training Catalogue, the Version of June 2013. For more information please visit our website at [www.tbs.go.tz/training](http://www.tbs.go.tz/training) or send any training enquiries to [training@tbs.go.tz](mailto:training@tbs.go.tz)  
Yours truly,

**HEAD, TBS Quality Control Section (Training)**

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## 0. General Information

### Course Applications

As much as we try to accommodate all learners where possible, the maximum number of trainees that CAN BE accommodated in our courses is between 15 and **20** per group, mainly due to optimization of the learning experience. Therefore, to avoid disappointment we urge you to submit an application form within **10** working days prior to commencement of the course. Remember, for this we will work on the first-come first-serve basis. The application form is attached at the back of this training catalogue, can also be downloaded from TBS website [www.tbs.go.tz/training](http://www.tbs.go.tz/training) and should be completed and faxed to the number indicated i.e. **+255 22 2450959**; alternatively this can be scanned or filled in a soft copy and e-mailed to [training@tbs.go.tz](mailto:training@tbs.go.tz) . There is also a booking form which can be filled to indicate which course and when you will need to be booked in.

**VERY IMPORTANT: Application forms should reach TBS Training Unit 10 working days prior commencement of the course.**

### Course Registrations

After receipt of your completed application form, you will be forwarded a quotation. Upon acceptance of this quotation, proof of acceptance should be returned, accompanied by an authorised documented purchase order number (on the official company letter-heads) alternatively proof of payment should be faxed or emailed through to TBS Training Unit. Final confirmation of the booking will be sent to you via e-mail upon receipt of all required documentation, **5 working days before the course commencement.**

### Course Fees

#### NOTE:

#### Mode of Payment

Course fees are payable ***in full and in advance***. Failure to provide proof of payment will lead to the learner being refused entry to the course. **Proof of payment must be submitted to the Course Administrator 5 working days prior to attendance of class via [training@tbs.go.tz](mailto:training@tbs.go.tz)**

10% discount will be granted when three (3) or more learners from the same organisation, attending the same course, at the same time and are all paid for on the same date from the same account. (Not applicable to In-house courses, where a separate quote will be issued for the presentation of that course). After cash payment, customer will be issued with a receipt for proof of payment.

**Account Name:** Tanzania Bureau of Standards

For **local Currency** you can pay through i) **Account Number:** 022101000542 – NBC or

ii) **Account Number:** 01J1005547600 – CRDB

Also you can pay equivalent amount in **US Dollar** to our cooperate account via **011105003505 - NBC**

### Postponement or Cancellations of Training

If there is interference within the scheduled course with your timetable you can make a substitution at any time within a given financial year. If you cannot find a substitute, we can

transfer your course fees to another TBS course of your choice within a given financial year. If you need to cancel or postpone your confirmed booking, we will refund your paid registration fee in full or transfer to another course moreover that cancellation or postponement must be received in writing at least 5 working days prior to commencement of the course. If not, for **postponement**, a **10% of course fees** shall be payable and for **cancellation** a 25% of course fees shall be payable as processing fees.

After the course starts, there are no refunds or transfers. Registrants who fail to attend without advance notice are liable for the entire course fee, **then the full course fee will be payable.**

**Note: TBS Training Unit reserves the right to cancel/reschedule any event/course or change instructors. Please be advised that TBS Training Unit is not responsible for airfare penalties or other travel expenses you may incur but undertakes to inform all affected learners as early as possible regarding such cancellations. The one of the strongest reason that a course would be cancelled and/or postponed is due to insufficient number of learners.**

### **Travel and Accommodation**

Learners are responsible for their own travel and accommodation arrangements. As per request, we can assist by supplying contact numbers of guesthouses, hotels or bed and breakfast establishments in the vicinity but TBS will not be held liable if conditions of these places do not meet your expectations.

### **Course Presentation & Methodology**

Courses will be presented in **English only**. Special needs will, however be considered in line with our language flexibility, especially in cases where In-house courses are presented. **100% ATTENDANCE IS A REQUIREMENT ON ALL OUR COURSES.**

.Various teaching and learning styles will be used; moreover a series of lectures will be used in a number of sessions to impart and clarify background information to the trainees which will further be complemented by interactive tutor-led and trainee-led discussion to help participants learn from each other. Tutorials, Interactive sessions, Case studies, group participation, Field visits, Management games, Seminars, Weekend experience in companies (*when deemed necessary as arranged by course instructor(s)*) will be used as a basis for reinforcing ideas. Learners are continuously evaluated throughout the learning program.

Where a course consists of more than one module, it is **STRONGLY RECOMMENDED** that the modules be done in sequence (i.e. Module 1 first and then Module 2) or alternatively if the learner has completed the module 1 with a different institution, he/she can apply for an exemption. The exemption would require a learner to submit the following for evaluation at TBS Training Unit:

- ❖ Concise résumé
- ❖ Copies of qualifications/short courses attended
- ❖ Course content/index for the course attended in relation to module 1 of all the courses you need to be exempted for.

When this is found satisfactory, the delegates will be required to also write an entrance exam at a cost of **TShs 100,000/=** and should they attain 60% or more, they'll be accepted for module 2.

**Note: For ISO 14001:2004 and OHSAS 18001:2007, the legal courses are strongly advised for better understanding of the legislation and by-laws governing the afore-mentioned courses.**

## Certification

**100% attendance is compulsory** from each learner for certification purposes.

Where Final Course Evaluations are required, the following rules will apply:

The pass mark for all courses is **70%** where a certificate of Successful Completion will be issued.

Should a learner achieve between **40% - 69%**, **one** re-write of the Final Course Evaluation will be allowed within a 4 – **month period** from the date of the initial Final Course Evaluation at **no charge**. Should a learner request a re-write beyond the 4 months period, a cost of **TShs 300,000/=** will be payable. **This is only allowed** within the year of attendance, otherwise learners will be required to re-attend the course at a regular fee.

**All re-writes will only be marked up to 70%.**

If a learner achieves **less than 40%** for the specific module or course, he/she will be required to **re-do the course** at own cost.

**Where no Final Course Evaluations are required, certificates of attendance will be issued.**

### Re - Issue of Certificates

Certificates will be issued within 2 weeks of completion of training, provided all necessary requirements have been fulfilled, including payments. All re-issue requests done after the stipulated period or a year after the training will be at a cost of **TShs 100,000/= per** certificate.

### In-House Presentation of Courses

An in-house presentation means specific model customized to the need of the client and TBS trainer(s) is/are sent to the customer's site or their preferred venue at the customer's cost to conduct the requested training.

All TBS Training courses can be presented as In-house training courses. These training courses can be customized to suit the customer's requirements.

**Only written requests for In-house training will be accepted.**

A quotation will then be sent. Upon receipt of a signed quotation from a customer, accompanied by the proposed training dates (3 options at least), the training confirmation will be sent together with an invoice of which payment should be effected before service is delivered.

**NOTE:** In-house courses will be presented to a **minimum of 10 and maximum of 20 learners per session**.

To facilitate professional service, efficient planning and supply of competitive quotation, a customer is requested to provide notification of where the training will be presented and a number of people to be quoted on. *Remember, the minimum number required to conduct an in-house training is 10.*

**The customer or organisation will be responsible for providing a suitable training room with all necessary training tools (including projectors, flip charts etc.) as well as refreshments and any amenities they see fit.**

## Contact Details

### *For General Correspondences*

**Postal Box:** 9524, Dar es Salaam Tanzania

**Telephone:** +255 22 2450206

**Fax:** +255 22 2450959

**E-mail:** [info@tbs.go.tz](mailto:info@tbs.go.tz), [training@tbs.go.tz](mailto:training@tbs.go.tz)

### *Training Coordinator(s)*

1) **E-mail:** [mary.meela@tbs.go.tz](mailto:mary.meela@tbs.go.tz)

**Cell Phone:** +255 715 66 1169

## Direction to TBS Head Quarters

## 1. Basic Quality Techniques

This course shed some light on applying various quality control techniques, tools and principles integrated with lean for maximum cost reductions and organization performance improvement. Beginning with the first module, each student brings a management – approved project or define some of his/her problem in his line of responsibilities then we will work on them during the training. In the second module trainees will work with course instructor to apply the tools and techniques in solving organization problems and improving the organization performances. This course focuses on providing hand on skills to the trainees which can be customized in their working environment.

### **Module 1: The fundamentals of Quality Management system**

This module is designed as an introductory course to build the foundation of incorporating quality parameters for achieving maximum customer satisfaction at the lowest overall cost, focus on delivering a quality product or service by improving your processes, or set up a world-class quality management system. It is designed for a wide audience to provide a broad understanding of basic quality concepts.

**Target Audience:** quality controllers, practitioners and other interested parties

**Course duration:** One (1) days

#### **Course outline:**

- ❖ Fundamentals of Quality Concepts  
The Evolution of Quality Management
- ❖ Quality Management concept
- ❖ Getting started

Note: No Final Course Evaluation will be written. **100% & participation is required.**  
Certificate of Attendance will be awarded.

### **Module 2: Quality Improvement tools ( Problem solving Techniques)**

This course is designed to provide trainees with the, direction, mentoring, and case studies necessary to realize the advantages of process improvement. It is further designed to provide quality practitioners, managers, professionals, auditors, and improvement team members an understanding of basic quality tools and techniques for solving typical problems facing organization(s).

**Target Audience:** quality controllers, practitioners, Quality assurance staff, auditors, management representatives and other interested parties.

**Course duration:** five (5) days

#### **Course outline:**

1. Fundamentals of Quality Concepts
2. The Evolution of Quality Management
3. Introduction to Quality Improvement
4. The PDCA Cycle and ten (10) Problem Solving Steps
5. 8D Report
6. The seven Quality Control Tools
7. Failure Mode and Effects Analysis (FMEA)
8. Balanced Scorecard Basics and Application

Final Course Evaluation

## 2. ISO 9001:2008 QUALITY MANAGEMENT SYSTEMS

Organisations all over the world have realized the benefits of implementing and maintaining quality management systems based on the ISO 9000 series of standards, since it improves the efficiency and effectiveness of an organisation's operation. It provides consistency in the quality of a product and/or service. It also drives an organisation to meet and exceed customer expectations, leading to an increase in market share.

The course is designed to enhance the understanding of the standards and their requirements, thus enabling learners to implement and maintain such systems in their respective organisational environment.

**Note: It is preferable that learners are already familiar with fundamentals of quality Management as the course focuses on the requirements and implementation of management systems.**

### Module 1: Top Management Awareness Course on Quality Management Systems (QMS)

Implementation of QMS requires management commitment that its development requires investments both on financial and human resources. In the past, compliance with the standard was often the Quality Manager's responsibility. This resulted in a Quality Management System operating in isolation within the Quality Assurance Department. The intent of ISO 9001:2008 is that Top Management has to demonstrate its support and involvement in the development and implementation of the QMS.

Thus active participation in establishing and managing processes to ensure compliance with the needs of customers, interested parties, and legal requirements is vital. In that regard, this training aim at providing awareness on the importance and strategic benefit of installing and implementing QMS (ISO 9001:2008) to the business firm as well as how the organizations can develop competitive advantages through it.

**Target Audience:** Top management, business owners, entrepreneurs, board members  
Business executives and other interested part who want to introduce  
Quality Management System within their organization or/and business.

**Course Duration:** One (1) day or two half days

#### Course outline:

- ❖ Introduction to Quality Concepts and Terminology
- ❖ Quality Paradigm
- ❖ ISO 9000 Series
- ❖ Quality Management Principles and their application
  
- ❖ Requirement of Quality Management System ISO 9001:2008
  - Management Responsibilities
  - Quality Policy and Objectives at all functions and levels
- ❖ ISO 9001:2008 Certification route.
- ❖ The Impact of ISO 9001:2008 Certification to Business Operations.
- ❖ No Final Course Evaluation will be written. **100% attendance is required.**
- ❖ Certificate of Attendance will be awarded.

## Module 2: Introduction to Quality Management Systems (QMS)

The standard for Quality Management Systems (ISO 9001:2008) requires that:

- ❖ Personnel in the organisation are made aware of the quality policy and objectives of the organisation.
- ❖ Personnel are made aware of their roles and responsibilities within the organisation and its quality management system.

This course aims to help organisations comply with the ISO 9001:2008 requirements. It ensures that learners attending the training understand and are able to interpret the basics of the standard. It also helps to make personnel aware of the importance of their roles in the organisation and assists them to achieve and exceed customer satisfaction.

**Target Audience:** Managers, quality controllers, Management System practitioners, Quality assurance staff, Auditors,  
management representatives, SHEQ officers and other interested parties

**Course Duration: Two (2) days**

### Course outline:

- ❖ Quality Concepts
- ❖ Evolution of QMS
- ❖ ISO 9000 Series
- ❖ Quality System Requirements of ISO 9001:2008
- ❖ Quality Management Principles
- ❖ The Impact of ISO 9001:2008 Certification and Case Studies.
- ❖ ISO 9001:2008 Certification route & External Audit
- ❖ No Final Course Evaluation will be written. **100% attendance required.**

Certificate of Attendance will be awarded.

## Module3: Implementation of Quality Management Systems ISO 9001:2008

This course has been designed to help the trainees to gain understand of the requirements of ISO 9001:2008 and to learn how to structure their own Quality Management System within the context of their company environment. It further equips trainees with an in-depth knowledge for reviewing their current operating practices and introducing new roles and responsibilities. Notwithstanding the course highlights areas of planning ISO 9001:2008 implementation, documentation and quality activities whereby participants will gain skills to develop quality policies, procedures instructions, and in purpose of establishing SMARTER objectives and measurable performance indices. At large the course can be used for continuous professional development through which learners will gain insights into real practical outlook of QMS.

**Target Audience:** Managers, SHEQ officers, Quality controllers, practitioners, , auditors, management representatives, individuals planning to lead the development, implementation and improvement of company's Quality Management System (QMS) compliance against ISO 9001:2008 and other interested parties

**Course Duration:** five (5) days

## Course outline:

- ❖ Understanding Quality Concepts, the purpose and rationale for a QMS
  - ❖ Describing the benefits of a QMS
  - ❖ Understanding Process approach
  - ❖ Understanding the Quality Management Principles and their application in organisations
  - ❖ Quality System Requirements of ISO 9001:2008
    - Process Approach
    - Documentation
    - Management Responsibilities
    - Resource Management
    - Product Realization
    - Measurement Analysis and Improvement
  - ❖ Applying the Process Approach in a QMS
  - ❖ Describing the 4-tier QMS documentation model
- Final Written Course Evaluation

## Module 4: Internal Auditors' Training on Quality Management Systems (ISO 9001:2008)

This course is designed to provide important skills on principles and practices of internal quality management system auditing based on ISO 19011.

**Target Audience:** Quality Managers, Quality Consultants, SHEQ Managers, Practising Professionals in industry and service sectors, engineering and Science, Business Administration students, Management System auditors.

**Course Duration:** four (4) days

## Course outline:

- ❖ Introduction to Auditing
- ❖ Auditors' Perspectives of ISO 9001:2008 – Interpretation of ISO 9001 as a basis for audits
- ❖ Planning of an audit and setting auditing objectives
- ❖ Performing an audit
- ❖ Audit reporting, Analysis and follow-up on corrective actions
- ❖ Final Written Course Evaluation/Examination

## Module 5: Lead Auditors' Training on Quality Management Systems (ISO 9001) Refresher Course

Emphasis is placed on independent auditing principles and practices. This course has been developed with the sole purpose of delivering practical training for auditing professionals on the principles and practices of effective management system audits in accordance with ISO 19011:2011. Trainees will gain important transferable skills and abilities on carrying and leading effective audits and manage the entire audit process. Through these trainees will learn on how to lead a team, to prepare for and conduct an independent audit to the requirements of ISO 9001:2008.

**Target Audience:** Quality Managers, Quality Consultants, SHEQ Managers, Practising Professionals, supplier auditors, system auditors, quality assurance officers, management representatives and any other interested parties

**Course Duration:** five (5) days

## Course outline:

- ❖ Introduction to Auditing
- ❖ Understanding the purpose and benefits of auditing
- ❖ Understanding the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> Party audits.
- ❖ Demonstration of an understanding of duties of lead auditor within an organization or for a third party.
- ❖ Auditors' Perspectives of ISO 9001:2008 – Interpretation of ISO 9001 as a basis for audits
- ❖ n Planning and Preparation for auditing in accordance to ISO 19011:2011
  - Developing the scope for auditing
  - Developing audit schedules, audit plans and audit checklist
- ❖ Auditing Process
  - Performing audits,
  - Auditors' Code of Conducts and display of auditor traits.
- ❖ Audit Cycle, Management and Review
- ❖ Audit reporting, Analysis and follow-up on corrective actions
- ❖ Certification process
- ❖ Final Written Course Evaluation/Examination

### 3. ISO 14001:2004 Environmental Management System (EMS)

Organisations have a legal and social responsibility regarding the environment within which they operate. This requires a sound environmental management system. This is due to organisations' impact on the environment through their operational activities, products and services. ISO 14001 has been written to be applicable to all types and sizes of organisations. The overall aim of ISO 14001 is to support environmental protection and prevention of pollution in balance with socioeconomic needs.

The training is applicable to all employees requiring an understanding of environmental management systems or those involved with the establishment, implementation, maintenance, continual improvement, management and evaluation of an ISO 14001 (EMS).

**Note 1: It is preferable that learners are already familiar with environmental issues as the course focuses on the requirements and implementation of management systems.**

**Note 2: Learners are strongly advised to attend the Environmental Legal Requirements course. This will become a pre-requisite in future**

#### **Module 1: Top Management Awareness Course on Environmental Management Systems**

An Environmental Management System (ISO 14001) is a powerful tool to help organisations to successfully meet today's financial, regulatory, and statutory as well as environmental challenges. Implementation of EMS requires management commitment that its development requires investments both on financial and human resources. Communication is required at all levels to ensure that every employee understands why an Environmental Management System is being implemented. Thus for a successful implementation, basic environmental training for management and other staff whose activities can impact on environmental aspects is necessary and required by ISO 14001.

This training aim at providing awareness on the importance and strategic benefit of installing and implementing EMS (ISO 14001:2004) to the business firm as well as how the organizations can develop competitive advantages through it. .

**Target Audience:** top management, business owners, entrepreneurs, board members Business executives, Safety Health Environmental and Quality Management System ( SHEQ ) officers and other interested part who want to introduce Quality Management System within their organization or/and business.

**Course Duration:** One (1) day or two half days.

**Course outline:**

- ❖ Understanding and defining Environmental Management Systems (ISO 14001)
- ❖ Requirement of Environmental Management System ISO 14001:2004
  - Management Responsibilities
  - The role of management in the implementation and the maintenance of the system
  - Environmental Policy and Objectives at all functions and levels
- ❖ Environmental Management Principles and their application
- ❖ ISO 14001:2004 Certification route.
- ❖ The Impact of ISO 14001:2004 Certification to Business Operations.
- ❖ **100% attendance required.**
- ❖ Certificate of Attendance will be awarded.

## Module 1: Introduction to Environmental Management System (EMS)

The standard for Environmental Management System (ISO 14001:2004) requires that personnel are made aware of their roles and responsibilities within the organisation and its environmental management system.

This course aims to help organisations comply with the ISO 14001:2004 requirements. It ensures that learners attending the training understand and are able to interpret the basics of the standard. It also helps to make personnel aware of the importance of their roles in the organisation and assists them to understand their environmental obligations and commitments.

**Target Audience:** quality controllers, practitioners, Safety Health Environmental (SHE) Representatives, auditors, managers  
responsible for environment, quality, health and safety, change management and project management as well as management representatives and other interested parties

**Course Duration: Two (2) days**

### Course outline:

- ❖ Brief Overview of the ISO 14001
- ❖ EMS Concepts and Issues
- ❖ EMS Requirements of ISO 14001:2004
- ❖ No Final Course Evaluation will be written, **100% participation is required.**
- ❖ Certificate of Attendance will be awarded.

## Module 2: Implementation of Environmental Management System

In recent years environmental consideration has become increasingly important to the stakeholders of many organizations. No company can afford ignoring this trend, yet implementing an Environment Management System (EMS) requires expert.

This course highlights the appropriate tools and techniques to analyze the business and move forward with implementing EMS. At the end of the course participants will have necessary skills which can be utilized to develop their company's EMS implementation plan that meets their need.

**Target Audience:** quality controllers, practitioners, Quality assurance staff, Auditors, managers responsible for Environment, Quality, Health and Safety (SHEQ), change management and project management practitioners as well as management representatives and other interested parties

**Course duration:** Five (5) days/

### Course contents

- ❖ Why and Environment Management System
- ❖ Management System Concept
- ❖ Environment Policy and Management Program
- ❖ Environmental Management Act, 2004
- ❖ Resources, responsibilities, training, Awareness and communication

- ❖ Documentation and document control
  - Operational control
  - Emergence preparedness
  - Monitoring and Measurements
  - Non Conformity, Corrective and Preventive actions
  - Audit Process
  - Management Review
  - External Audit and Certification
  - Getting Started
- ❖ No Final Course Evaluation will be written, **100% attendance required.**
- ❖ Certificate of Attendance will be awarded.

### **Module 3: Internal Auditors training on Environmental Management System Auditing**

ISO 14001:2004 is applicable to a wide range of organizations. All organizations implementing Environment Management System based on its requirements are required to conduct internal audits that should be carried out by competent trained auditors.

There is no any EMS can fulfil its potential unless it is regularly monitored. This intensive training course highlights on the methodological approach in conducting internal audit effectively. Thus they will learn auditing techniques compatible with ISO 14001:2004: based on ISO 19011. At large the techniques on how to plan, perform and report on audit and how to take corrective actions will be discussed.

**Target Audience:** quality controllers, practitioners, assurance staff, auditors, managers responsible for environment, quality, health and safety, change management and project management as well as management representatives and other interested parties

**Course duration:** Five (3) days

#### **Course contents**

- ❖ An overview of ISO 14001:2004 – Auditors perspective
- ❖ An overview of the types of EMS audits, reasons to audit and problems associated with audits
- ❖ Understanding of the auditing principles and the process
- ❖ The process approach to auditing
- ❖ Understanding EMS and Certification challenges
- ❖ Typical audit documentation
- ❖ Extensive practical assignments and audit scenarios
- Final Written Course Evaluation

#### **Alternatively**

#### **Course contents**

- ❖ Environmental management and ISO 14000 series of standards
- ❖ Requirements of ISO 14001:2004
- ❖ Concepts and principles of auditing
- ❖ Managing an audit programme
- ❖ Performance of an audit
- ❖ Reports, records and follow-up
- ❖ Competence and evaluation of auditors

- ❖ Extensive practical assignments and audit scenarios
- ❖ Final Written Course Evaluation/ Written Examination

**Note:** Because legislation is such an integral part of Environmental Management system, we strongly recommend that learners also attend the Environmental Legal course.

#### **Module 4: Lead Auditors' training on Environmental Management System Auditing**

To impart skills on the principles and practices of an Environmental Management System auditing in accordance with ISO 19011:2002

**Target Audience:** Persons aspiring to be lead auditors and must be qualified Internal Quality Auditors or have knowledge on Quality Management systems

**Course duration:** Five (5) days

#### **Course contents**

- ❖ Environmental management and ISO 14000 series of standards
- ❖ Requirements of ISO 14001:2004
- ❖ Concepts and principles of auditing
- ❖ Managing an audit programme
- ❖ Performance of an audit
- ❖ Reports, records and follow-up
- ❖ Competence and evaluation of auditors
- ❖ Extensive practical assignments and audit scenarios
- ❖ Final Written Course Evaluation/ Written Examination

#### **Module 5: Tanzanian Environmental Legal Aspect in compliance with ISO 14001:2004**

The minimum legal requirements of ISO 14001 necessitate a commitment by the organization's top management to comply with all the applicable environmental legislation. In order to implement this commitment, organizations must identify and have access to all applicable legal requirements. The relevance and application of the identified laws should also be understood and captured in the environmental management systems.

It follows that the legal requirements, together with the other elements of the environmental policy, must guide the organizations' objectives and targets and environmental management programmes. It must also be incorporated into operational and monitoring procedures where appropriate.

The fragmentation of Tanzania's environmental legislation makes the isolation and interpretation of applicable legislation complex. Therefore, our legal training course has been designed to equip learners with a working knowledge of the most important Tanzania environmental laws. The course also highlights the practical application of the law to the typical industrial and mining environment. The main objective of the course is to enable learners to identify and relate the applicable laws to their industries' activities, products and services.

Environmental legal issues should be strategic priority of every organisation. Therefore, personnel tasked with the implementation, management and evaluation of an environmental management system (EMS) effectively, they require an understanding of legal issues pertaining to EMS.

**Note: The course focuses on obligations imposed by the respective act and regulations and not on philosophies underpinning the legislation.**

**Course Duration:** Two (2) days

**Course outline:** ISO 14001 and the environmental legal requirements

Tanzania Environmental legal requirements related to:

- ❖ Environment Management Act
- ❖ Personal liability for environmental offences in the workplace
- ❖ Air pollution control
- ❖ Water management
- ❖ Waste management
- ❖ Hazardous chemicals and substances (excluding dangerous goods transport)
- ❖ Environmental impact assessments

## 4. ISO/IEC 17025:2005 –General Requirements for the Competency of Testing and Calibration Laboratories

This course aims to give an understanding of the general requirements for the competence of the laboratory and its staff to carry out tests and/or calibrations, including sampling. It covers testing and calibration performed using standard methods, non-standard methods and laboratory methods.

This International Standard is applicable to all organizations performing test(s) and/or calibration(s). This include for example, first, second and third party laboratories and laboratories where testing and/or calibration forms part of inspection and product certification. It is applicable to all laboratories regardless of the number of personnel or the extent of the scope of testing and/or calibration activities. It is for use by laboratories in developing their management system for quality, administrative and technical operations.

### Module 1: Foundation Course in ISO 17025:2005

With the globalization and an increased market liberation, a demand for testing facilities to produce a reliable results which can be accepted all of the world has draw attention to a number of testing laboratories, workshops and other arrangements. Thus this course highlight to the organization decision makers and other senior member of the management on how they can lead a process of seeking laboratory accreditation which will leads to acceptance of the results of an organization's testing and calibration processes and their activities worldwide.

**Target Audience:** top management, business owners, entrepreneurs, board members, lab Managers, executives whose organization is involve with test and/or calibration process and activities, Business executives and other interested part who want to introduce, implement and continuously improve a management system for quality, administrative and technical operations of testing and/or calibration laboratories based on the requirements of ISO/IEC 17025:2005.

**Course outline: One (1) days per module**

**Course outline:**

- ❖ Brief overview of the Standard
- ❖ Management requirements
- ❖ Technical requirements
- ❖ Practical examples and exercises = Portfolio of evidence
- ❖ Getting Started
- ❖ Certificate of Attendance

## **Module 2: Advanced Training in ISO 17025:2005**

Ensuring quality of analytical measurements is a significant challenge in all testing laboratories. The output of laboratories is critical for those making decisions based on the data they produce. Unreliable results from laboratories leads to wrong decisions which in turn may have catastrophic personal or financial impacts on the people or organizations affected by that decision.

This training has been designed to give advanced skills in Quality Assurance & Competence capacity in testing Laboratories personnel of all types i.e food, chemistry, mining, material testing, textile, medical etc. The training is intended for laboratory analysts/technicians in different testing laboratories.

**Target Audience:** top management, business owners, entrepreneurs, Board members, lab Managers, executives whose organization is involve with test and/or calibration process and activities, Business executives and other interested part who want to introduce, implement and continuously improve a management system for quality, administrative and technical operations of testing and/or calibration laboratories based on the requirements of ISO/IEC 17025:2005.

**Course duration:** Five (5) days

### **Course outline:**

- ❖ Brief Overview of the Standard
- ❖ Management Requirements
- ❖ Technical Requirements
- ❖ Questionnaires
- ❖ Practical examples and exercises = Portfolio of evidence
- ❖ Certificates of Competence will be awarded

## **Module 3: Quality Assurance & Competence in Testing Laboratories (Hands on Skills)**

Ensuring quality of analytical measurements is a significant challenge in all testing laboratories. The output of laboratories is critical for those making decisions based on the data they produce. Unreliable results from laboratories leads to wrong decisions which in turn may have catastrophic personal or financial impacts on the people or organizations affected by that decision.

This training has been designed to give hands on skills in Quality Assurance & Competence capacity in testing Laboratories personnel of all types i.e food, chemistry, mining, material testing, textile, medical etc. The training is intended for laboratory analysts/technicians in different testing laboratories.

**Course Duration:** Five (5) days

### **Course outline:**

- ❖ Introduction to Laboratory Quality System, ISO/IEC 17025
- ❖ Application of Quality Control Tool in laboratories Quality Assurance

- ❖ Calibration of Analytical Method
- ❖ Validation of Analytical Method
- ❖ Introduction to measurement Uncertainty
- ❖ Final Course Evaluation will be written and
- ❖ Certificate of Competence will be awarded.

## 5. Tailored Training on Quality Assurance and Competence in Chemical, Physical and Microbiology Analysis of Water to Laboratory Personnel.

This tailored course is designed to provide hands on skills to trainees in order to provide required competence in analyzing water and hence assurance of reliable results. It has been designed by **targeting to impact transferable skills to water** laboratory managers, analysts and technicians in packaged water industries, Water utilities, regulators and researchers. The program covers both theoretical and practical session where trainees will apply the knowledge gained to their real working environment. It has been designed throughout the year whereby after first session of theoretical work, the trainees will be required to go and apply the knowledge gained and the course instructors will make a follow up and at the end there will be a 5 days session for winding up the program.

**Course Duration:** Ten days course contact time and the training is spread throughout the year.

### Course Outcome:

- ❖ To prepare and properly standardize reagents, prepare media required for testing quality of water.
- ❖ To calibrate equipments needed for analyzing water parameters.
- ❖ To conducts various quality tests of water including microbiology, chemical and physical parameters
- ❖ To properly document, write report and keep records
- ❖ To evaluate quality of the tested water using specifications (standards)
- ❖ Equipping trainees with skills on hand on how to participate in proficiency testing

Through this training course, participants will have an opportunity to create networking among them and foster analytical work.

### Course outline:

- ❖ **Introduction to ISO/IEC 17025**
- ❖ **Chemical and physical analysis of water**
  - Analytical methods
  - Participants will be guided on how to perform analytical test methods so as to quantify the following parameters in water; Calcium as Ca, Magnesium as Mg, Total hardness as CaCO<sub>3</sub>, Alkalinity as CaCO<sub>3</sub>, Total dissolved solids, Total suspended solids, Chlorides as Cl, Sulphate as SO<sub>4</sub>, Sodium as Na, Potassium as K, Copper as Cu, Iron as Fe, Lead as Pb, Zinc as Zn, Nickel as Ni and pH
  - Preparation of Reagents
  - Participants will be guided on how to prepare and standardize analytical reagents such as AgNO<sub>3</sub>, EDTA, Acids, Bases, Indicators and Buffers.
  - Calibration and use of equipment
  - Participants will be guided in calibration, verification and use of Atomic Absorption Spectrometer (AAS) and pH meter.
- ❖ **Microbiological Analysis of water**
  - The Laboratory is accredited against ISO 17025 towards the following methods; Salmonella, Ecoli, Coliforms Vibrio cholera. The scope is;
  - Sample handling
  - Media Preparation
  - Media Sterilization
  - Actual Analysis

- Sub-culturing of samples
- Identification/ colony readings
- Interpretation of results
- Reporting of results
- ❖ Final Course Evaluation will be written and
- ❖ Certificate of Competence will be awarded.

For the Laboratory which are located outside Dar es Salaam, the trainees will be deemed to pay per diem to TBS trainer(s) and administration fees of 15% of the course fees.

## 6. Hazard Analysis and Critical Control Point (HACCP SYSTEMS)

Within the food and drink industry, HACCP is a well-known technique used to analyze potential food safety hazards in an operation. It assists in identifying where these may occur and also in evaluating which are more critical to consumer safety. The increasing demand for control of food and drink processes has resulted in companies worldwide introducing and maintaining HACCP systems.

This course is designed to enable learners to understand, implement and maintain HACCP systems based on TQS 10330: "The implementation and management of a Hazard Analysis and Critical Control Point (HACCP) system". The system ensures that companies produce food and drinks that are safe for human consumption

### Module 1: Implementation of Hazard Analysis and Critical Control Point (HACCP)

People have the right to expect that the food they eat is safe, it is therefore imperative that manufacturers of food products implement food safety systems that are able to identify hazards and practices that could render food unsafe, and implement systems to ensure customers and consumers' expectations are met.

The HACCP system, as it applies to food safety management, uses the approach of controlling critical points in food handling to prevent food safety problems. Besides enhancing food safety, other benefits of applying HACCP include effective use of resources and timely response to food safety problems. In addition, the application of the HACCP system can result in more focused risk management and can promote international trade by increasing buyer confidence in food safety.

The successful application of HACCP requires the full commitment and involvement of management and the entire workforce.

### Course Duration: Two (2) days

#### Course Outline

- ❖ Introduction to HACCP
- ❖ HACCP Principles and Terminology
- ❖ Practical application of HACCP Principles
- ❖ Constructing flow diagram
- ❖ Control measures
- ❖ Identifying critical control point
- ❖ Monitoring system and corrective actions
- ❖ Preparing a documented HACCP plan

#### Module 2: Audit Practice

- ❖ Introduction to auditing
- ❖ Auditing Principles - ISO 19011
- ❖ Auditor Requirements
- ❖ The Audit Program
- ❖ The Audit Process
- ❖ The Certification Process
- ❖ Practical Examples and Exercises
- ❖ Final Course Evaluation

## 7. ISO 22000, Food Safety Management System Certification

FSMSC 22000 contains a complete certification scheme for Food Safety Systems based on existing standards for certification (ISO 22000: 2005 – Food safety management system-requirements for any organisation in the food chain, ISO 22003 and technical specifications for sector PRPs). It is developed for the certification of food safety systems of organizations in the food chain.

Organisations seeking certification to FSMSC 22000 must ensure an effective Prerequisite programme based on ISO/TS 22002-1 – Prerequisite programmes on food safety – Part 1: food manufacturing, PAS 223 – (packaging manufacturers), as applicable and/sector specific requirements. In addition the specific requirements of FSSC Part 1 must be met. Implementation of FSMSC 22000 will allow organisations to ensure international standardisation of the food safety system to meet customer requirements and ensuring food safety is maintained throughout the food chain.

This course aims to provide an understanding of implementation of food safety management systems based on FSSC 22000 requirements, and the application of the HACCP principles.

### Course Outcomes

#### Module 1 : Understanding and Implementation of FSSC

- ❖ Understanding hazards
- ❖ Overview of GMPs/PRPs
- ❖ Overview of requirements of ISO 22000
- ❖ FSMSC Part 1 requirements

#### Module 2 : Auditing

- ❖ Auditing Principles – ISO 19011
- ❖ Food Safety Systems Certification Audit
- ❖ Validation, verification and improvement of the Food Safety Systems Certification
- ❖ Practical examples and Exercises
- ❖ Final Course Evaluation

## 8. Training Schedule

Visit our website for Annual training Schedule [www.tbs.go.tz](http://www.tbs.go.tz)

