



Texas A & M Agrilife Research and COMESA invites applications for participation in an online course entitled 'Laboratory Quality Systems, offered by Texas A&M University (TAMU).

Deadline for submission of the application

January 20, 2025

Minimum education requirement

Bachelors (BSc) in Animal Science/Biochemistry/Chemistry/Food Science or related field.

Other essential requirements

Candidate must be employed and responsible for the laboratory operation and analyses.

Technology requirements

- A computer that is less than 4 years old;
- Reliable high-speed Internet connection (cable/DSL or better) with an updated browser;
- Software such as Microsoft Word, PowerPoint & Excel 2003-2013 or equivalent;
- Common plug-ins (e.g., Adobe Reader, virus protection, etc.); and
- Microphone and speakers.

Costs

Under a recent MOU between COMESA and Texas A&M AgriLife Research, no participation fee will be charged for candidates or the organization from COMESA countries.

Application submission procedure

Submit application by email to Mukayi Musarurwa (Dr.) (MMusarurwa@comesa.int) with the following:

- 1. 1 page motivation letter explaining why you wish to take this course and how you will apply the knowledge you will gain. Your letter should include:
 - First name
 - Last name
 - Phone number
 - Email address (gmail preferred)
- 2. A letter of time and resource commitment from your Director/Head of your organization with his/her signature indicating access to work internet and time to view materials and complete assignments.

Applicant notification

Successful candidates will be informed of their selection on or before January 24, 025. Selection will be based on the requirements listed above, the motivation letter from the candidate, and the letter from the Director/Head of the institution in which the candidate is employed. Spaces in the course are limited. You will not be admitted if you do not submit both the documents described above.

Overview

The course will be in **English**. The course will address, among others, the following main topics:

- Ensuring Validity and Reliability
- Laboratory Procedures
- Quality Assurance: Procedures, Tools & Methods
- Laboratory Management

The course will also cover quality systems and method development, ISO 17025:2017 standard and accreditation, ensuring the integrity of procedures used in laboratory processes, chain of custody, information management, international laboratory standards, regulatory requirements for laboratory operation and bio-security precautions

Time Commitment

About 8 - 10 hours per week for 10 weeks (See Schedule Below)

Course Tools

All course materials and activities will be presented via a course website and Google Groups. Details will be provided to participants before the start of the course.

Course Content

Weekly materials are presented using a variety of formats, including online narrated power point slide presentations and videos. Weekly course assignments, conducted as a discussion or homework assignment, will assist in the participant's understanding of concepts. These include, but are not limited to, statistical process controls, developing standard operating procedures (SOPs), corrective/preventive actions, and methods of validation.

Class Readings

Most readings will be available in the learning management system in .pdf format. Other readings will be available online, with a hyperlink provided in the course website.

Grading

Grades will be determined as follows:

Discussions (6)	30 pts
Homework (6)	70 pts

Completion of the course assignments and a score \geq 70% is required to receive a certificate. Participants will receive a certificate upon successful completion of the course

Instructor information	Course Coordinator	
Dr. Tim Herrman	Prabha Vasudevan	
Professor, State Chemist and Director	Education/Outreach Coordinator	
Texas A&M University, USA	Office of the Texas State Chemist, USA	
tjh@otsc.tamu.edu	prabha@otsc.tamu.edu	

Course Schedule

Week (Dates)	Topics	Assignments/Due Dates	
Unit I – Laboratory Quality System Structure			
1 January 27 – February 2, 2025	Laboratory Quality Systems-Overview; Laboratory Standards	Self-Introduction – Due January 31, 2025 Discussion #1 – Due February 3, 2025	
2 February 3 - 9, 2025	ISO 17025 Requirements; Laboratory Accreditation	Homework #1 – Due February 10, 2025	
Unit II – Laboratory Quality Control Techniques			
3 February 10 -16, 2025	Quality Control Techniques The Big Three • Traceability • Proficiency Testing • Uncertainty	Discussion # 2 – Due February 17, 2025 Homework #2 – Due February 17, 2025	
4 February 17- 23, 2025	 Quality Control Procedures Chain of Custody Control of Non-conforming work Recording and Reporting for Quality Assurance 	Homework #3 – Due February 24, 2025	
5 February 24 – March 2, 2025	Statistical Process Control	Homework #4 – Due March 3, 2025 Discussion # 3 – Due March 3, 2025	
Unit III – Method Validation			
6 March 3 - 9, 2025	Validation of Analytical Procedures	Discussion #4 – Due March 10, 2025	
7 March 10 - 23, 2025	Validation of Microbiological Procedures & Chemical Procedures, Spectroscopic Procedures and Rapid Methods	Homework #5 –Due March 24, 2025	
8 March 24 - 30, 2025	Validation of Spectroscopic Procedures and Rapid Methods	Discussion #5 – Due March 31, 2025	
Unit IV – Laboratory Quality Management			
9 March 31 – April 6, 2025	Concept of Quality Management; Technology Strategy; Budgeting; Benchmarking	Homework #6 – Due April 7, 2025	
10 April 7 - 13, 2025	Laboratory Networks ; Laboratory Safety; Risk Assessment	Discussion #6 – Due April 14, 2025	