



Bringing Scientific and Technical resources to the African Continent (NITA/TRN/875)

HANDS-ON GAS CHROMATOGRAPHY(GC)AND MASS SPECTROMETRY(MS) GC-GCMS TRAINING

25th -29th September,2023

What will you learn on this course?

This course provides the theory of gas chromatography (GC) and mass spectrometry (MS) essential to any participant, along with hands-on practical elements in the laboratory to practice and re-enforce the theoretical knowledge. These courses are 20% theory and 80% practical in a lab environment.

This course addresses gases and plumbing, sample introduction, analytical columns, GC detectors (FID and ECD), mass-spectrometry and data analysis. The knowledge is then used to create methods, perform injections and change parameters to see the effects. The course discusses the need for maintenance along with practical's to carry out maintenance on both a GC and a GC-MS system such as liquid auto sampler, inlet, columns, FID/ECD and Quadrupole MS including tuning and ion source cleaning. A day is spent on troubleshooting a GC or GC-MS instrument and learning what problems can occur, with real problem solving on the instruments and data analysis software.

Advantages of the Training Program:

GC-MS finds application in fields like Medicine, criminal forensics, environmental monitoring and cleaning, explosives detection, etc. Thus the training is beneficial for the people who are working industries which relates to chemicals, pharmaceuticals, food, oils, agriculture, cosmetics, analytical testing laboratories and many others

<ul style="list-style-type: none">Registration and Climate setting	(9.00-10.30) am
Tea Break	10.30-11.00am
<ul style="list-style-type: none">Introduction & instrumentation, of, GC, parts, function. and operations of individual components, GC configuration.	11.00-12.30pm
Lunch Break	12.30-2.00pm
<ul style="list-style-type: none">Introduction & instrumentation, of GC-MS, parts, functions and operations of individual components	2.00pm-4.45pm
<ul style="list-style-type: none">GC-MS Configuration, parts and componentsProcedure for powering on the GC/GC-MS, pumping down,	(9.00-10.30am)
Tea Break	10.30-11.00am
<ul style="list-style-type: none">Explaining Pre-Acquisition software: Tuning and Calibration, Calibration report generation, MS Tune File, Explanation of MS Method and GC Method	11.00-12.30pm



Bringing Scientific and Technical resources to the African Continent (NITA/TRN/875)

Lunch Break	12.30-2.00pm
<ul style="list-style-type: none"> • Introduction to Data acquisition software, System and method Parameter setup, • Set up method for Full Scan and Single Ion Monitoring Operation, • On-column injection, Split/Split less injection 	2.00pm-4.45pm
<ul style="list-style-type: none"> • GC/GC/MS Sample Preparation 	(9.00-10.30)am
Tea Break	10.30-11.00am
<ul style="list-style-type: none"> • GC/GC/MS Sample Preparation 	11.00-12.30pm
Lunch Break	12.30-2.00pm
<ul style="list-style-type: none"> • Introduction to Quantitative software, Qualitative software, Library search Concepts, integration, report generation. • 	2.00pm-4.45pm
<ul style="list-style-type: none"> • Creating sequence for multiple sample analysis. • Creating Calibration, curve and producing report files • Individual sample analysis 	(9.00-10.30)
<ul style="list-style-type: none"> • Qualitative and quantitative data analysis with a set file • Quantitation using single internal standard 	
Tea Break	10.30-11.00am
<ul style="list-style-type: none"> • Quantitation using external standard 	11.00-12.30pm
Lunch Break	12.30-2.00pm
<ul style="list-style-type: none"> • Interpreting MS data, ie positive & negative ion ionization 	2.00pm-4.45pm
<ul style="list-style-type: none"> • Discussion of results and possible deviations 	(9.00-10.30)am
Tea Break	10.30-11.00am
<ul style="list-style-type: none"> • Discussion 	11.00-12.30pm
Lunch Break	12.30-2.00pm
Directors remarks and issue of Certificates	2.00pm-3.00pm
Dates 25th –29th SEPTEMBER 2023	Cost Kes.81,200.00 or USD 812.00
Venue: Kisumu Deadline: 15th September 2023	(Per Person)