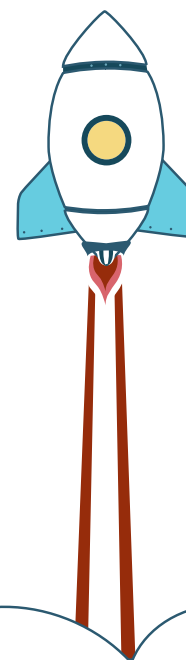


CHROMacademy

training for analytical scientists

Learn the
Fundamentals of
HPLC / GC / GCMS / LCMS
or
LC & GC Method
Development with our
expert-led online
video courses

take your career
to new heights



CHROMacademy customers include:

Unilever | Coca-Cola | Waters | AstraZeneca | Thermo Scientific | Agilent | Pfizer | Shimadzu | Leco

LC|GC's **CHROM**academy powered by crawford scientific



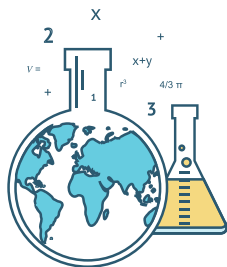
Video Training Courses

Fundamental:
HPLC / GCMS / GC / LCMS
Method Development:
HPLC / GC



1000's of eLearning Topics

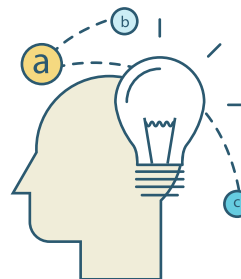
HPLC / GC / Sample Prep
MS / Infrared / Basic Lab Skills
Biochromatography



HPLC & GC

Troubleshooting Tools

Become the lab expert
with our HPLC and GC
Troubleshooters



Ask the Expert - 24hr

Chromatography Support

Our experts will answer your
questions within 24 hours or
less

Used by over 40,000 chromatographers worldwide



Dr Dawn Wallace Watson
CHROMacademy Technical Expert

Fundamentals of HPLC

4 Video Training Sessions | Running Time 6hr 14min.

Who should take this course

Anyone who is new to HPLC or those wishing to understand more about the practicalities of HPLC analysis. This course delivers a full introduction to the subject and takes knowledge and understanding to a level which will make a real difference in your working life! You will be able to understand method variables, separation mechanisms, and HPLC column choice as well as gaining an increased awareness of issues with methods and how to avoid them.

Watch, Listen & Learn

Session 1 | Runtime - 79 min.

Understand the fundamentals of HPLC by learning about

- Chromatographic Parameters
- HPLC Separation Mechanism
- Solvents Commonly Used in Reversed Phase HPLC and How to Select Them
- How to Optimize Methods with Ionizable Analytes

Session 2 | Runtime - 94 min.

Improve your methods by

- Learning How to Select and Appropriate HPLC Stationary Phase for Your Separation
- Gaining an Understanding of the Effect of Column Dimensions on Chromatographic Results
- Understanding How to Optimize Parameters in Gradient Elution

Session 3 | Runtime - 98 min.

Know your HPLC instrument

- Consider How to Correctly Prepare Mobile Phases
- Understand How Solvent Pumping Systems Work
- Understand How Autosamplers Work and How to Troubleshoot Them

Session 4 | Runtime - 103 min.

Detect and quantify your peaks

- Learn How to Optimize Important Detector Settings
- Understand Quantitative and Qualitative HPLC

Finally - Consider How to Care for and Maintain Your Column and System for Better Results

[View Sample Video »](#)



HPLC Method Development

4 Video Training Sessions | Running Time 8hr 56min.

Who should take this course

Anyone wishing to develop their practical understanding of HPLC method development to a level that will make a real difference in the laboratory. This course considers the wide array of choices available to method developers and teaches a refined and logical approach to method development.

Tony Taylor
CHROMacademy Technical Director

Session 1 | Runtime - 144 min.

Get you method off to a great start by

- Planning and Setting Objectives - What Do You Want Your Method to Do?
- Selecting the Correct Sample Preparation Technique for Your Sample
- Understanding How to Choose the Optimum Column Chemistry
- Learning How to Optimize Column Physical Parameters - Particle Size and Morphology and Column Dimensions

Session 2 | Runtime - 116 min.

Start developing by

- Considering Silica Types and the Effect on Separations
- Examining a Step by Step Guide to Developing a Method for a Neutral Sample
- Learning How to Carry Out Gradient Screening

Session 3 | Runtime - 139 min.

Improve your method

- How to Optimize Methods with Ionizable Analytes
- Select the Correct Buffer for Your Method
- Optimize Gradient Separations

Session 4 | Runtime - 137 min.

Advance your method

- How to Use HILIC for Polar Analytes
- Make the most of Your UV Detector - Parameters Which Must be Optimized
- Which Method Parameters will Improve MS Detection

[View Sample Video »](#)

Watch, Listen & Learn



Amy Claydon
CHROMacademy Technical Expert

Fundamentals of GC

4 Video Training Sessions | Running Time 5hr 41min

Who should take this course

Anyone who is new to gas chromatography, or those wishing to develop their practical understanding of GC analysis. This course will provide a full introduction to gas chromatography, while also taking knowledge and understanding to a level that will make a real difference in the laboratory!

Watch, Listen & Learn

Session 1 | Runtime - 55 min.

Get off to a great start by

- Looking at Carrier Gas Requirements and How They Affect Chromatographic Quality
- Understanding How the GC Controls Pressure and What it Means for Flow Rates
- Selecting the Correct Sampling Technique for Your Sample

Session 2 | Runtime - 114 min.

Make the most of your injection technique by

- Understanding How to Optimize Split and Splitless Injections
- Knowing When to Use Other Sampling Techniques
- Learning How to Minimize Band Broadening to Give Efficient Chromatography

Session 3 | Runtime - 110 min.

Separate your analytes by

- Choosing the Optimum Stationary Phase for Your Method
- Understanding How to Implement Temperature Programming
- Manipulating Column Dimensions to Improve Analyte Separation

Session 4 | Runtime - 62 min.

Detect your peaks

- Understand How to Operate and Optimize All the Common GC Detectors - FID, NPD, ECD & TCD

[View Sample Video »](#)



Tony Taylor
CHROMacademy Technical Director

GC Method Development

4 Video Training Sessions | Running Time 7hr 14min.

Who should take this course

Anyone ready to take the next step in your gas chromatography journey. A practical approach to GC method development which will provide you with the knowledge and understanding to produce reliable and robust methods every time.

Session 1 | Runtime - 120 min.

Get the best start possible by

- Setting Method Objectives - What Do You Need Your Method to Do?
- Correctly Preparing Your Sample
- Selecting the Optimum Carrier Gas
- Choosing the Most Appropriate Column

Session 2 | Runtime - 125 min.

Optimize your injection technique by learning

- How to Optimize Split and Splitless Injection
- When to Use Other Inlets Including - Cool on Column, Programmed Thermal Vaporizing, and Headspace Sampling

Session 3 | Runtime - 111 min.

Optimize analyte separation by

- Changing Column Dimensions to Give Efficient Chromatography
- Developing Temperature Programs

Session 4 | Runtime - 78 min.

The best way to detect your peaks

- How to Select the Correct Detector and Properly Optimize Its Performance

[View Sample Video »](#)

Watch, Listen & Learn



Amy Claydon
CHROMacademy Technical Expert

Fundamentals of LC-MS

4 Video Training Sessions | Running Time 6hr 33min.

Who should take this course

Anyone who is new to LC-MS, or those wishing to develop their practical understanding of LC-MS analysis. All aspects of the technology and system are covered - from an overview of a typical HPLC system and important considerations when combining this separation technique with detection by mass spectrometry, all the way through the various atmospheric ionization processes and the different mass analyzers that are available.

Watch, Listen & Learn

Session 1 | Runtime - 123 min.

Understand the fundamentals with

- An Introduction to LC-MS - How and Why It Is Used
- The Theory of Atmospheric Pressure Ionization Techniques - APCI, APPI, and Electrospray Ionization

Session 2 | Runtime - 114 min.

Learn how ions are detected with the fundamental theory and operation of common mass analyzers

- Ion Traps
- Quadrupoles
- Sector and Orbitraps
- TOFs
- TQ Experiments

Session 3 | Runtime - 78 min.

Understand the LC side of LC-MS and detect ions by

- Considering the Effect of Solvent Type on Ionization
- Understanding which Buffers and Additives are Appropriate for Use With MS
- Learning How the Detector and Vacuum System Work and How to Keep Them Working

Session 4 | Runtime - 78 min.

Interpret your data and optimize your method by

- Understand the Fundamental Concepts of Resolution and Mass accuracy
- Gaining Knowledge of Basic Data Interpretation
- Learning How to Develop a Method

[View Sample Video »](#)



Tony Taylor
CHROMacademy Technical Director

Fundamentals of GC-MS

4 Video Training Sessions | Running Time 5hr 55min.

Who should take this course

Anyone who is new to GC-MS or those wishing to understand more about the practicalities of GC-MS analysis. This course is designed to highlight the powerful possibilities of GC analysis coupled with mass spectrometric detection, covering everything from decisions that need to be made about the GC method to analyzing results.

Session 1 | Runtime - 88 min.

Understanding the GC method by

- Considering Carrier Gas Purity and Flow Control
- Deciding How Best to Introduce Samples into the System
- Learning How to Select the Optimum Column for Your Method
- Knowing how to Correctly Interface the Column and MS Detector

Session 2 | Runtime - 109 min.

Making the most of the MS by

- Understanding the Ionization Process
- Learning How to Tune the MS
- Optimizing Source Parameter
- Knowing How to Identify Problems

Session 3 | Runtime - 74 min.

Detecting the ions

- Using and Optimizing the Common Mass Analyzers - Quadrupole, Ion Trap, Time of Flight, and Magnetic Sector instruments

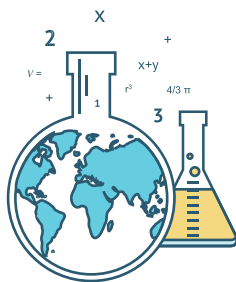
Session 4 | Runtime - 84 min.

Interpret your data with

- An Introduction to GC-MS Data Interpretation

[View Sample Video »](#)

Watch, Listen & Learn



Helping you
become the
lab expert

HPLC & GC Interactive Troubleshooting Tools

We developed the CHROMacademy HPLC Troubleshooter with busy chromatographers in mind. In 3 simple steps we can help you overcome your instrument, separation and quantitation issues.

- 1 Select your chromatographic symptoms
- 2 Select your instrument symptoms
- 3 We return a list of possible causes ranked by our industry experts

Each cause has a concise summary of the problem and recommended solutions.

Our promise: If you don't find a satisfactory solution or just need more information then you can Ask our Experts.



Ask the Expert - 24hr Chromatography Support

Can't find the answer to your question?

Our dedicated team of analytical experts are on hand to help fix your instrument and chromatographic problems, offer advice on method development & validation, column choice, data analysis and much more. Simply email or phone the support team and we will get back with a solution in less than 24 hours.

Mix & Match Training Courses

Choose your modules - we have 100's on offer.

All interactive training modules come with a full colour course booklet and online assessments.

Listed below is a small sample of different training topics covered at CHROMacademy.com

HPLC Course

- Column chemistry
- Reverse phase (partition) chromatography
- Gradient HPLC
- Quantitative and Qualitative HPLC
- Fast HPLC
- HILIC
- Ion Chromatography

GC Course

- Sampling Techniques
- Sample Introduction
- GC Columns
- GC Temperature Programming
- GC Detectors
- 2D-GC
- GC Troubleshooting
- GC Method development

Mass Spectrometry Course

- Electrospray Ionisation
- Mass Analyzers
- Orbitrap Mass Analyzers
- LCMS Method Development
- Fundamental GC-MS
- GCMS Method Development
- MS Interpretation
- General Interpretation Strategies

Basic Labs Skills Course

- Laboratory Safety
- Estimating & Handling Errors
- Volumetric Lab Equipment
- Balances
- Measuring pH
- Titrations

Bio-Chromatography Course

- Amino Acids, Peptides & Proteins
- Introduction to Monoclonal Antibodies
- Reversed Phase - Peptide Level Analysis
- Reversed Phase - Protein Level Analysis
- HILIC
- Size Exclusion Techniques
- Ion Exchange Techniques
- Affinity Chromatography

Sample Preparation Course

- Assessing Molecular Properties
- SPE Overview
- SPE Mechanisms
- SPE Method Development
- Primary Sample Preparation Techniques
- Liquid / Liquid Extraction Techniques
- Approaches to Automation for SPE
- Micro-extraction Techniques

CHROMacademy is the worlds largest e-Learning website for analytical scientists. Packed with practical information that will help improve your skills and productivity.



KEVIN A. SCHUG, PH.D.



“CHROMacademy is chock full of informative and interactive modules that address virtually every aspect of modern separations. It is an indispensable tool & brilliant source for understanding the technique”

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