



# Sampling System Training 2021

## Improve process accuracy & optimize analyzer performance

### Sampling System Problem Solving and Maintenance Training - SSM

If your job is maintaining a sampling system, you may not have the time or resources to come up to speed on the system. Achieving the results you need depends on deepening your understanding of the system, as well as fine-tuning the system for optimum performance.



You can eliminate mistakes in your sampling system. And you don't have to do it alone. Swagelok Training prepares analytical instrumentation technicians and maintenance personnel to catch mistakes before they happen and recognize existing problems in installed sampling systems.

Our Sampling System Problem Solving and Maintenance Training (SSM) teaches fundamental and advanced practices in analytical instrumentation operation and maintenance, empowering you to maintain your sampling system with minimal error and greater system integrity.

### Topics

- gain a better understanding of sample system components, such as valves and regulators
- diagnose and troubleshoot sample system errors
- learn sample system maintenance techniques
- diagnose and fix time delay problems
- understand sample system performance
- learn why and how samples change phase and how to manage your systems to control it
- though hands-on exercises and team projects using fluid system components such as regulators
- apply course knowledge to solve real life problems

### For who?

Maintenance and Reliability personnel, Analytical System Engineers new to use of sampling systems





## Sharpen your Skills and Meet Demanding Requirements in just two days

### Day 1 Fundamentals: Classwork and Basic Exercises

#### Performance of Sample Systems

- Maintenance techniques
- Sample compatibility with analyzer
- Time delay in sampling
- Mixing and contamination

#### Diagnosing & Fixing Time Delay Problems

- Sample transport time calculations for liquids and gases
- Gas compressibility and time delay

#### System Components

- Flow valve basics and the effects of water hammer
- Pressure measurement devices
- In-depth look at pressure regulators and common problems
- Pumps and temperature regulation

### Day 2 Sample Conditioning Techniques

- Proper use of filters and coalescers
- Understanding and controlling phase change
- Liquid, vapor, and gas separation devices
- Design of field stations and fast loops
- Troubleshooting sample systems
- Group projects

## Phil Harris Industry Expert and Consultant

In his over 30 years in industry and academia, Phil has provided expert insight and analysis for a variety of applications. He is the author of many papers on analyzer systems and routinely presents at industry conferences and technical seminars.



With extensive experience in research, development, and project management, Phil has supported many industries, including nuclear energy, oil refining, and alternative fuels. He earned both his bachelor's and master's degrees from the University of Manitoba. He is an ISA Analysis Division fellow.

### Course date

September 30 and October 1, 2021

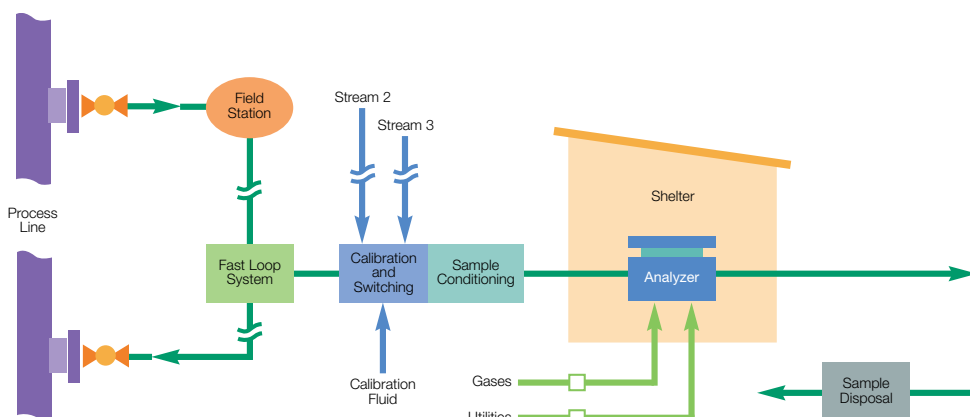
### Location

Live training at Swagelok Nederland office in Waddinxveen

### More information

Check our website, contact us directly or click on button to register today.

[Click here to register](#)



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