Email: info@gatewayconsulting.com | Phone: +96522968641
https://gatewayconsulting.com

# DYNAMIC MODELING FOR PROCESS TROUBLESHOOTING

| | | | |
|---|---|---|---|
| **Start Date:** | 15/03/2027 | **End Date:** | 19/03/2027 |
| **Categories:** | Oil & Gas | **Venues:** | Seoul |
| **Formats:** | In Person | **Instructors:** | |

## OVERVIEW

This course focuses on building dynamic simulation models for analyzing and troubleshooting transient process conditions. Participants will use tools like Aspen Dynamics or UniSim Design to study control behavior, startups, shutdowns, and disturbances.

## OBJECTIVES

By the end of this course, participants will be able to: • Build dynamic models from steady-state flowsheets. • Simulate process transients including startups and shutdowns. • Analyze control loop behavior and interactions. • Identify bottlenecks and troubleshoot dynamic issues. • Use dynamic modeling for operator training and predictive analysis.

## COURSE OUTLINE

1. Transitioning from Steady-State to Dynamic Models 2. Controllers, Loops, and Instrumentation Setup 3. Simulating Transient Operations and Failures 4. Control Strategy Testing and Tuning 5. Applications for Troubleshooting and Training

## TARGET AUDIENCE

Process engineers, control engineers, and operators involved in process troubleshooting and control strategy development.

## METHODOLOGY

Simulation case studies, loop tuning labs, operator scenario modeling, and dynamic diagnostics.

## CONCLUSION

Participants will develop skills in dynamic modeling for real-time troubleshooting, control improvement, and operational readiness.

## DAILY AGENDA

### Day 1: Steady-State to Dynamic Model Conversion

Building base models and configuring time-dependent behavior.

### Day 2: Control System Implementation

Setting up controllers, transmitters, and actuators in simulation.

### Day 3: Transient Event Modeling

Running scenarios for startup, shutdown, and failure response.

### Day 4: Control Performance and Tuning

Testing PID response and refining strategy stability.

### Day 5: Troubleshooting and Application Cases

Using dynamic models to solve common process bottlenecks.

*For more information, please contact us:*
*Email: info@gatewayconsulting.com | Phone: +96522968641*
*https://gatewayconsulting.com*