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gPROMS Self-Paced Learning Resources Catalog

This document details the list of self-paced learning resources currently available.

SIEMENS

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General capabilities courses

Short course (10 mins)

Take your first steps on your **gPROMS** learning journey or refresh your knowledge with our range of **10-minute** interactive short course trainings!

These trainings leverage **interactive elements** within Saba Cloud for a seamless and engaging learning experience.

Whether you want to learn about the fundamentals of **flowsheeting**, or specific **gPROMS activity types**, there are plenty of courses available.

Category	Course
General	gPROMS user interface
	gPROMS flowsheeting
	Making an engaging flowsheet topology with annotations
	Entity overview: Building blocks of a gPROMS project
	Experiment configuration & Data import
	Model validation
	Global system analysis
	Introduction to surrogate modeling
	Introduction to state estimation
	Design space
Connecting a gPROMS model to an external program	Introduction to linking gPROMS with Excel
	Introduction to linking gPROMS with python
gPROMS Web Applications	gWAP end user training

Feature based courses (1- 4 hours)

Complete trainings related to specific gPROMS topics, such as **troubleshooting**, **custom modelling**, and **connecting gPROMS to an external program**.

Contains **hands-on software exercises** hosted on Siemens VLAB virtual machine environments.

Category	Course
General	Steady state flowsheeting and optimization
	Dynamic flowsheeting and optimization
	Global System Analysis in gPROMS
	Initialization procedures in gPROMS
	Surrogate Modelling
	State Estimation: Extended Kalman Filter deep dive
	Deploying unit operation models
Materials modelling	Introduction to gPROMS Properties
Connecting a gPROMS model to an external program	Calling gPROMS from Python with gO:Python
	Calling Python scripts from gPROMS with AdaptorFO
	gPROMS Solvent Screening
Troubleshooting	Troubleshooting failing simulations
Custom modeling	gPROMS FormulatedProducts custom kinetic templates
gPROMS Web Applications	Overlaying model predictions with experimental data in gWAP
	gWAP developer – Anti-solvent crystallization

Developing a model from scratch (4-8 hours)

Learn how to write your own gPROMS code with our selection of custom modelling trainings.

Category	Course
Custom modeling	Implementing a lumped model in gPROMS
	Implementing a distributed model in gPROMS
	Models in hierarchy
	Making models robust
	Estimating model parameters from experimental data

Application focused courses (4-8 hours)

These trainings encompass the use of key platform features within the context of a given operation.

Each training comprises a series of comprehensive modules which can be attempted in any order. Each module has a corresponding **hands-on software exercise** to complete either locally or on a complimentary virtual machine environment. Typical modules include: simulation, model validation, global system analysis, and optimization.

Practice area	Course
Active Ingredient Manufacture	Continuous drug substance manufacture
	Crystallization
	Crystallization (Mandarin) 结晶
	Crystallization – Morphological
	Impurity tracking
	Pressure filtration
	Reactors - Hydrogenation
	Wet Milling
Bioprocessing	Bioreactors
	Chromatography
	Membrane filtration (Food & Beverage Applications)
	Tangential flow filtration
	End-to-end bioprocess modelling
Solids processing	Batch flowsheeting
	Continuous direct compression
	Dry granulation
	Fluid bed granulation
	Spray drying
	Spray drying – dairy
	Tablet compaction
	Tablet coating
	Leaching reactor
Product performance	In-vitro dissolution
	Oral absorption
Solar evaporation pond operations	Solar evaporation ponds

Practice area	Course
Catalytic reactors	Introduction to fixed-bed catalytic reactors modelling
gPROCESS fluid separations	Adsorption - effective design of a PSA system
	Absorption – modelling CO2 capture with MEA
	Distillation modelling: Setting up a column
	Distillation modelling: Sizing a column
	Distillation modelling: Pressure drop in a packed column (includes hydraulic report)
	Distillation modelling: Side draws
	Distillation modelling: Pressure drop in a tray column (includes flow regimes + hydraulic report)
	Distillation modelling: Batch
gFLARE	Introduction to gFLARE
	Constructing and using a blowdown model for orifice optimization
	Screening vs detailed blowdown modelling
	Fire survivability
	Creating custom reporting variables
Electrochemical reactors	Introduction to Green Hydrogen System Modelling
gWater	Introduction to Mechanistic Modelling of Wastewater Treatment with SIWA Treatment Studio
gOilfield	Oil and Gas Flowsheet Simulation and Optimization

Video Library

Expand your knowledge and **gain greater insight** into the **usage of digital tools** through the diverse range of **video content** stored in the library. Explore categories such as:

- **Campaign highlights**
- **Application & industry webinars**
- **Advanced Process Modelling Forum (APMF) presentations**

