

# VLXE

## One day oil and gas course

After taking the course the participants will know how to use the general and the oil part of VLXE for Excel. The focus is in given a working knowledge of VLXE and calculating viscosity of heavy oils.

### The course

The course will cover all key elements of using VLXE for Excel for oils

- Interface
  1. Introduction
  2. Project sheet
  3. Functions in Excel
  4. Databases
  5. Wizards
  
- Models
  1. Cubic equations of state
  2. PC-SAFT type equations of state
  3. Viscosity: f-theory
  
- Oil and Gas module
  1. Characterization
  2. PVT calculations
  3. Viscosity

The theory will be presented in lectures and exemplified through hands-on exercises in the use of VLXE.

VLXE will provide one month licenses to cover the licenses needs for the course.

### Who should participate?

Engineers engaged in studies of heavy oils or other complex mixtures, plant operators or others interested in applying PVT simulation software for calculation of phase behaviour and fluid properties.

## Prerequisite

Users should have access to a PC with Excel 2003 or newer. A working knowledge of Excel is needed.

## Preliminary course schedule

The day will consist of lectures and hands-on exercises. Lectures are short and users are encouraged to bring their own problems to the course.

- Lecture
  1. Introduction to VLXE
  2. Options and modules
  3. Models (Equations of state)
  4. Type of components (Standard/polymer/copolymer)
  5. Introduction to the f-theory used to model viscosity
  6. Introduction to Excel (Range functions)
  7. Create a new project using the databases
  8. Use the wizard to create a calculation
  9. Link calculations
  
- Exercises
  1. Create a new project using the databases
  2. Edit the project settings
  3. Perform a cloud calculation (As range and as row output)
  4. Calculate a phase envelope
  5. Link flash calculations
  6. Change the components included in a calculation
  7. Change the units used in a calculation
  8. Use the goal seeker in Excel to solve a simple problem
  9. Perform a characterization of a oil
  10. Calculate viscosity
  11. Blending

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