

Course Fee: US\$450

If you work with plate-and-frame geometries, *Xphe*[®] is the software for you. In this workshop you will discover how to use HTRI's graphical tool for rating plate-and-frame heat exchanger designs and for conducting comparative studies of plate-and-frame versus shell-and-tube design solutions for specific applications. You will learn how *Xphe* handles single-phase and two-phase heat transfer and pressure drop for common corrugated plate patterns in a variety of configurations, from single-pass, single-plate arrangements to multipass, mixed plate designs. You will also leave with a better understanding of the analytical methods used in *Xphe*. Note that crossflow plate-and-block type arrangements are not accommodated in *Xphe* and are therefore not covered in this workshop.

Key Topics

- Overview of *Xphe* capabilities and applications (single-/multiple-plate types and passes, non-Newtonian fluid specification, port maldistribution, and more...)
- Process specifications for rating, simulation, and design
- Guidelines for specifying fluid properties
- Geometry input
- Introduction to HTRI analysis methods

Suggested Participants

Process and thermal design engineers that evaluate plate-and-frame heat exchanger performance

Course credits: 6 hours (PDH/CEU)

Outline

- I. Introduction to Plate-and-Frame Technology
 - Characteristics and applications
 - Pros and cons vs. shell-and-tube heat exchangers
 - Geometry configurations

- II. Process Specifications
 - Common uses
 - Interface overview
 - Case modes and process specification

- III. Fluid Properties
 - Specification options
 - Non-Newtonian fluids

- IV. Geometry Input
 - Key geometry input features in *Xphe*

- V. Methods
 - Single-phase
 - Boiling
 - Condensing