Course Fee: US$450

If you work with plate-and-frame geometries, ***X****phe*® 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 ***X****phe* 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 ***X****phe*. Note that crossflow plate-and-block type arrangements are not accommodated in ***X****phe* and are therefore not covered in this workshop.

Key Topics

- Overview of ***X****phe* 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 ***X****phe*

V. Methods
- Single-phase
- Boiling
- Condensing