

Course Fee: US\$650

Learn the fundamentals of condensation mechanisms and how they apply to condenser designs! Apply guidelines to develop *Xchanger Suite* cases for accurate assessment of performance. This course provides a foundation for understanding the basis for thermal design of typical industrial heat exchangers.

Key Topics

- Film condensation in vertical surfaces
- Condensation in horizontal tube bundles
- Interfacial vapor shear effects on condensation heat transfer
- Condensation inside horizontal tubes
- Desuperheating and subcooling
- Condensation with mixtures
- Condensation with enhanced heat transfer surfaces
- Two-phase pressure drop
- Venting inerts
- Drainage

Suggested Participants

Engineers who design and evaluate condenser equipment

Outline

- I. Condensation and Condenser Characteristics
 - Condensation heat transfer
 - Typical tubular condensers

- II. HTRI Condensing Methods
 - Flow regimes and flow regime map
 - Bulk condensation, desuperheating, and subcooling
 - Resistance proration method (RPM)
 - Condensation with inserts
 - Two-phase pressure drop

- III. Design Considerations
 - Baffles
 - Enhancements
 - Operational issues
 - Mechanical concerns
 - Design checklist

- IV. Reflux Condensers
 - Reflux characteristics
 - Design considerations