

The purpose of this course is to provide an introduction to air-cooled heat exchanger (ACHE) configurations and applications. In this course, we will discuss various ACHE arrangements, construction considerations, fan selection criteria, and methods used to model the thermal and hydraulic performance of an air-cooled heat exchanger.

### Suggested Participants

This is an introductory course for engineers – novice to expert – interested in air-cooled heat exchanger construction and performance.

### Outline

- I. Introduction
  - Principles of Industrial Cooling
  - Air-cooled Heat Exchanger Arrangements
  - Controlling ACHEs to Optimize Performance
- II. Construction
  - Tube Bundles
  - Air Handling Components
  - Modular Construction
- III. Fan Selection for ACHEs
  - Fan Curves
  - Fan Laws and Fan Noise
- IV. Modeling Performance
  - Heat and Mass Balance
  - Temperature Driving Force
  - Surface Area
  - Tubeside Heat Transfer and Pressure Drop
  - Airside Heat Transfer and Pressure Drop
  - Fouling

**Course duration:** Approximately 5 hours

**Access:** You can access the course for up to 30 days, starting on the date of registration. The course is self-paced and delivered completely online. If you need to exit the course before completion, you will be able to save your progress and return to the course anytime within the 30-day access period.

**Course credits:** 5 hours (PDH/CEU)

**Recommended browser:** Google Chrome

**HTRI software:** *Xchanger Suite*<sup>®</sup> is not used during this course

**Course fee:** US\$600 (member) or US\$850 (non-member)