

## BECHT TECHNICAL TRAINING

### Course Content

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**Title:** Process Design Fundamentals

**Potential PDH:** 40      **Code:** BTT029



#### Description:

This course covers a number of different process equipment types and intends to familiarize the course participant with:

- Equipment basics
- Alternatives and selection criteria
- Sizing and design criteria and methodology
- Operability, optimization, debottlenecking and troubleshooting considerations
- Process Data Specifications prepared for Detailed Design Engineering / Fabricators
- Proposal review and detailed design surveillance

The course is made up of lecture materials containing worked-out examples for class discussion, and training workbooks that lay out problems for the course trainee to solve and/or solutions to review. The full course which includes every topic and associated training workbooks takes approximately 10 days. Since client's needs, available training time and training budgets are often limited, Becht will work with the client to:

- Select those modules that best fit with client's immediate training needs based on makeup and experience level of trainees
- Identify the amount of time to spend on each module to fit within the allotted training time.
  - The instructor will then select the content to share during the training sessions

#### Outline:

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1. Fixed Equipment
  - Heat Exchangers
  - Fired Heaters
  - Fractionation and Internals
  - Extraction
  - Strainers, Filters, and Coalescers
  - Pressure Safety Devices
  - Flare Systems
2. Rotating and Motive Equipment
  - Pumps
  - Drivers
  - Compressors
  - Fans and Blowers
  - Eductors and Ejectors
  - Mixing Equipment
  - Auxiliary Equipment
3. Fluid Flow and Piping Systems

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- Fluid Flow
- Piping
- Valves
- 4. Instrumentation
  - Instrumentation
  - Process Control
  - Analyzers
- 5. Miscellaneous Design
  - Utility Systems
  - Materials
  - Sampling
  - Safety Topics
  - Regulations, Permits, and Emissions
  - Basic Design Calculations