



Course Title: Essentials of Chemical Engineering for Non-Chemical Engineers

Course ID:	Course Type:
CH710	Instructor-led (classroom) Course
http://www.aiche.org/ch710	

Course Schedule

Day One

8:00 – 8:30	Registration
8:30 – 10:00	Safety, toxicology, ethics, and economics The “HHO” Reactor
10:00 – 10:15	Morning Break
10:15 – Noon	Processing, Scale-up, and Stoichiometry/Review exercises
Noon – 1:00	Lunch Break
1:00 – 2:30	Mass balances, Kinetics, and Reaction Engineering
2:30 – 2:45	Afternoon Break
2:45 – 4:00	Fluid flow, Pumps, Viscosity, Laminar vs. Turbulent Flow
4:00 – 5:00	Case Study and review exercises

Day Two

8:30 – 9:15	Heat Transfer, Heat Exchangers, Energy Balances
9:15 – 10:00	Concepts and Basics of Reactive Chemicals Analysis T-2 Fire and Explosion
10:00 – 10:15	Discussion and Review exercises
10:15 – 10:30	Morning break
10:30 – 11:00	Distillation and Stage Wise Contacting
11:00- 11:30	Absorption, stripping, and extraction
11:30- Noon	Review exercises
Noon – 1:00	Lunch Break
1:00 – 2:00	Evaporation and crystallization
2:15 – 2:30	Review exercises
2:15 – 2:30	Afternoon Break
2:30 – 4:00	Filtration and Drying

4:00 – 5:00 Case Study: Coffee Brewing

Day Three

8:30 – 10:00	Solids Handling and Processing Review of Pt. Wentworth Sugar Plant Fire and Explosion/Review exercises.
10:00 – 10:15	Morning Break
10:15 – 11:00	Tanks and Vessels
11:00 – 11:30	Chemical Engineering in Polymers/ Polymer Processing
11:30 – Noon	Review exercises
Noon – 1:00	Lunch Break
1:00 – 2:30	Process Control and Control Valves Review of Texas City Fire and Explosion
2:30 – 2:45	Afternoon Break
2:45 – 3:00	Future Challenges for Chemical Engineers
3:00 – 5:00	Final Questions, Discussions, and Presentation