



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

<b>Course ID:</b>	<b>Course Type:</b>
CH710	Instructor-led (classroom) Course
<a href="http://www.aiche.org/ch710">http://www.aiche.org/ch710</a>	

**Course Schedule**

**Day One**

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

**Day Two**

<b>8:30 – 9:30</b>	Heat Transfer, Heat Exchangers, Energy Balances
<b>9:30 – 10:00</b>	Concepts and Basics of Reactive Chemicals Analysis T-2 Fire and Explosion
<b>10:00 – 10:15</b>	Morning Break
<b>10:15 – 11:00</b>	Distillation and Stage Wise Contacting
<b>11:00 – Noon</b>	Absorption, stripping, and extraction
<b>Noon – 1:00</b>	Lunch Break
<b>1:00 – 2:15</b>	Evaporation and crystallization
<b>2:15 – 2:30</b>	Afternoon Break
<b>2:30 – 4:00</b>	Filtration and Drying
<b>4:00 – 5:00</b>	Case Study: Coffee Brewing

## Day Three

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