



Fluidic Catalytic Cracking Unit Profile

Listed below are the required subjects identified in a Fluidic Catalytic Cracking (FCC) Unit. All learning is eligible for continuing education credits from IACET. For each subject, a set of specific knowledge requirements are derived.

<u>Unit Operations</u>		
Process Overview	Key Process Variables	Process Hazards
Process Description	Consequence of Deviations	
<u>Systems</u>		
Air	Nitrogen	Sealing
Fuel Gas	Power Transmission & Distribution	Steam
Natural Gas	Relief & Flare	Vapor Recovery
<u>Equipment</u>		
Boilers	Ejectors	Positive Displacement Pumps
Centrifugal Compressors	Heat Exchangers	Steam Traps
Centrifugal Pumps	Motors	Tanks
Coolers & Chillers	Piping	Valves
Dryers	Positive Displacement Compressors	Vessels, columns, towers
<u>Instruments</u>		
Alarms & Controllers	Limit Switches	Pressure & Temperature Measurement
Distributed Control Systems	Liquid Flow Measurement	Process Controllers
Fuses & Circuit Breakers	Motor Operators	Smart Transmitters
Gas Flow Measurement	Position Indicators	Switches, Solenoids, & Overloads
Level & Weight Measurement		
<u>Fundamentals</u>		
Basic Mathematics	Cleaning Activities	Power Tool Basics
Basic Trigonometry	Hand Tool Basics	Pressure Testing
Basics of Electricity	Hangars, Fasteners, & Bolting	Process Fundamentals of Distillation
Basics of Hydrocarbon Chemistry	Metal Welding & Plasma Cutting	Process Fundamentals of Reaction
Basics of Pneumatics & Hydraulics	Physics of Fluid and Flow	Process Fundamentals of Separation
Best Practices	Physics of Gases & Compressors	Process Fundamentals of Stripping
Blinding & Gasket Operations	Physics of Heat & Temperature	Process Troubleshooting
Blueprint Reading	Plate & Structural Steel Fabrication	Quality Assurance & Control
<u>Process Safety</u>		
Accident Control Techniques	Industrial Ergonomics	Safe Tank Cleaning
Fire Fighting	Industrial Hygiene	Safety Awareness
Heat Stress Safety	Plant Radio Communications	
<u>Environmental, Health & Safety</u>		
Access to Medical Records	Hazard Communication	Permit-Required Confined Spaces
Bloodborne Pathogens	Personal Protective Equipment	Control of Hazardous Energy (Lockout/Tagout)
Flammable and Combustible Liquids	Eye and Face Protection	Occupational Noise Exposure
Process Safety Management of Highly Hazardous Chemicals	Respiratory Protection	Fall Protection
Flammable and Combustible Liquids	Facility Response Training And Drills/Exercises	Safety-Related Work Practices