

CBE 30399
Unit Ops and Lab (Imperial)
Spring 2016
Syllabus

Text: C. J. Geankoplis: *Transport Processes and Separation Process Principles*, Prentice Hall 3rd or 4th edition (2003).

Course Description: This course will provide an introduction to the “Unit Operations” that comprise a carbon dioxide absorption process using monoethanolamine in water. It will also provide background material for the laboratory experiments that students will perform at Imperial College

Topic _____ (no. classes) (book pgs)

1. Introductions, course organization, London, Imperial College, the Pilot Plant and process description, description of the lab (1)
2. Basic Balance equations for the process, (+ some thermodynamics) (1) (12-16, 22-25)
3. Principles of fluid flow in pipes and packed beds (fundamentals of fluid flow—>pipe flow, packed bed flow) + Pipe flow experiment (2) (more later!!)
4. Heat transfer: principles of heat transfer—>heat exchangers heat exchanger experiment (2)
5. Gas absorption: (more thermo, basic principles of mass transfer—> gas-liquid absorption in a packed column) + gas absorption experiment (2)
6. Process operation (reprise) and control (2)
7. “Whatever other” experiments (1)
8. Reports, written and oral (1)