ChE 360 Spring 2016

Instructor: Dr. Norman Loney, Room 382T, X6598; loney@njit.edu

Office Hour Tuesdays at 2:50 PM – 3:50 PM

Text: Transport Processes and Unit Operations by C.J. Geankopolis
Additional Materials: - will be posted on Moodle

Separations

This course will explore four separation methods that are currently practiced in Industry:
- Distillation processing
- Packed Towers – rate based processing
- Liquid-Liquid Extraction processing
- Membrane processing

Chapters to be covered include:
1. Chap 11
2. Chap 10
3. Chap 6
4. Chap 7.2
5. Chap 12
6. Chap 13

Learning Goal: A graduate from this class will be able to strategically utilize stream variables combined with equilibrium relationships (see Thermo II*) to synthesize and produce design level separation processes and associated equipment for application.

Learning Outcomes: Students will be able to:
1. Conduct stream balances on separation apparatus
2. Extend single stage separation concept to multistage operations
3. Conduct separation process modeling using both graphical and analytical techniques
4. Apply knowledge gained while obtaining learning outcomes 1 – 3 to multi-component separation processes.

Course Policy
Attendance will be taken

Each student will be assigned to a group by the Instructor and the assigned group is expected to remain intact throughout the semester.

Course Grading:

1. Projects will be assigned, collected and graded as a group effort. This set of activities will be 60% of the final grade.
2. Concept quizzes worth 20% of final grade. These quizzes will be closed book and will be about 40 min duration.

3. A final comprehensive exam will be worth 20% of final grade and will be 2.5 hours. The final exam will be open book and open notes.

*Knowledge of Thermo II material pertaining to phase equilibrium will be assumed in this course.

Final grade distributions:

A: \[ \geq 90 \]

B\(^+\): 85-89

B: 80-84

C\(^+\): 70-79

C: 60-69

D: 50-59

F: 0 - 49