ChE 422 - Unit Operation Lab

Code and Name: ChE 422 - Unit Operation Lab
Credit Hours: 1 (Lecture: 0, Tutorial: 0, Lab 2)

Textbook:
- Laboratory manual

Other References:
- None

Course Description:
Packed and tray distillation, packed-column gas absorption, liquid-liquid extraction, humidification/dehumidification in cooling towers, tray drying, evaporation, filtration, fluidization, screen analysis and size reduction.

Pre-requisites: ChE 325 Unit Operation, ChE 421 Separation Processes, ChE 433 Reaction Engineering Lab
Co-requisites: None

Course Learning Outcomes:
With relation to ABET Student Outcomes (SOs: 1-7)

1. Recall the theory that the students have learnt to be applied in the experiment (1)
2. Interpret the experimental data (6)
3. Calculate the needed parameter or items of my experiment using mass and energy balances (1)
4. Summarize the experimental work and understand the laboratory manual (1)
5. Demonstrate team work in group (5)
6. Operate some office software for writing the report and making the plot (6)
7. Write effectively a technical report (3)
8. Conduct experiments (6)

Topics to be covered:
- Gaseous Diffusion
- Convective Drying
- Wet cooling tower
- Fluidized bed formation
- Leaching
- Size distribution and angle of repose
- Sedimentation

Grading Policy:
The grading for the course are 60% coursework and 40% Final Exam. The course work consists of two Midterm Exams, where each midterm exam is worth 20%. It also includes quizzes, homework, and projects for the remaining 20% that is modified by the course instructor.