ChE 433 - Reaction Engineering Lab

Code and Name: ChE 433 - **Reaction Engineering Lab**
Credit Hours: 1 (Lecture: 0, Tutorial: 0, Lab 2)

Textbook:
- Chemical Reaction Lab Manual, Al-Imam Muhammad Ibn Saud Islamic University

Other References:
- None

Course Description:
CSTR Reactor, PFR Reactor, and Batch Reactor, CSTRs in series and Catalytic Reactor.

Pre-requisites: ChE 311 Chemical Reaction Engineering, ChE 323 Heat Transfer Lab

Co-requisites: None

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

1. Recognize the theory of the chemical reactors and its design. (1)
2. Summarize the experimental work and understand the laboratory manual (1)
3. Interpret the experimental data. (6)
4. Write the mole balance and rate equation for reactors. (1)
5. Show their responsibility for keeping a lab or experimental log for any experiment or data. (4)
6. Demonstrate presentation of the experiment and report writing. (3)
7. Conduct the experiment (6)

Topics to be covered:
- Adiabatic Batch Reactor
- Isothermal Batch Reactor
- Continuous Stirred Tank Reactor
- Continuous Stirred Tank Reactor in Series
- Plug Flow Reactor
- Oral Presentation
- Experimental Exam

Grading Policy:
The grading for the course are 60% coursework and 40% Final Exam. The course work consists of lab reports which account for 30%. It also includes quizzes, homework, for 20% and 10% for participations.