

## **ChE 4013 Chemical Engineering Lab II**

Required course for ChE program

**Catalog Description:** Experimental verification of mass transfer, chemical reaction rate principles, and process control. Emphasis on safety. Oral and written reports.

**Prerequisites:** ChE 4063.

**Corequisites:** ChE 4113.

**Prerequisites by Topic:** Mass transfer, reactor design, equilibrium thermodynamics, fluid mechanics, heat transfer

**Recent Textbook:** None

**Other Required Material:** None

**Course Objectives:** By the end of the semester, students will be able to:

1. run an experiment correctly given equipment operating instructions
2. Relate a process flow diagram to the equipment
3. Analyze real world data including statistical analysis and experimental error.
4. Work effectively in a team
5. Apply the basic concepts of laboratory safety to experiments, including statistical risk analysis
6. Apply the theoretical principles learned in chemical engineering classes
7. Do basic experimental design
8. Present findings in written and oral formats

**Major Topics Covered in the Course:** Lab experiments cover mass transfer, reaction engineering, equilibrium thermodynamics, and process control; lectures cover laboratory safety, report writing, and error analysis.

**Class/Laboratory Schedule:** Lecture meets for one 50-minute session each week for 14 weeks. Lab meets for one session that is up to 5 hours long each week for 14 weeks.

**Professional Component Contribution:** This course is experiments in chemical engineering science.