CE 428 - Chemical Engineering Laboratory IV
Course Information: Spring 2005

LECTURES:  Mondays, 3-3:50 pm, 112 O’Brian Hall

LAB:  Monday 10-12:50;  Wednesday 11-1:50,  as scheduled
       116 and 121 Jarvis Hall

INSTRUCTOR:  Tamara G. Kofke, Ph.D.
             Dept. of Chemical Engineering, 610 Furnas Hall
             Phone: 645-2911 X2168
             E-mail: tgkofke@eng.buffalo.edu

Instructor’s schedule:  In office, 116,121, or 216 Jarvis:
                       Monday 10:00-3:00; Wednesday 11:00-4:00
                       In office: Tuesday, Thursday 9:30-2:15
                       by appointment or open-door (or lab) policy

TEACHING ASSISTANT:  Thomas Agbanyo tagbanyo@buffalo.edu

COURSE WEBSITE:  http://www.eng.buffalo.edu/Courses/ce428

No Required Text

Some Suggested Supplementary Material: (recommended but not required)

McCabe, W.L., Smith, J.C., and Harriott, P., Unit Operations of Chemical

Perry, R.H.; Green, D.W., Perry’s Chemical Engineers’ Handbook, 7th ed.
(whichever you have access to), McGraw-Hill: New York.

Taylor, J.R., An Introduction to Error Analysis: the Study of Uncertainties in

1999.

GROUP SELECTION:  Teams of three (in some cases, four) will be selected by
Prof. T.Kofke. Teams and experiment schedule will be distributed in class and
posted to the course website.
Course Expectations: Students in this course will be expected to use theory learned in earlier (and sometimes concurrent) courses to analyze experimental data obtained from hands-on operation of laboratory equipment. In addition, students will be expected to effectively communicate their work in memos, and oral presentations. Emphasis will be placed on critical evaluation of data using statistical methods and comparison to expected results.

Coursework Timeline:
1. Individual members of a team will read the handout describing the experiment. The handouts are not meant to be complete. You are expected to independently look-up and gain understanding of necessary information. In addition to the handout, a homework assignment for each experiment will be given to individual members of a team to reinforce the skills needed to carry out the data analysis.

2. At some point prior to the lab date, the team will meet in the lab for a Preliminary Lab Period which will take place at the team’s and the instructor’s convenience. During this time, the team will examine the equipment, plan the experiment, and develop a written detailed operating procedure. All team members must be present for this meeting.

3. A written detailed operating procedure and copies of Material Safety Data Sheets for each chemical involved in the experiment must be turned in to Prof. T. Kofke at the pre-lab meeting. Individual members of the team will also turn in their completed homework assignment at this meeting. This meeting will take place, at the latest, one day prior to the lab session. All team members must be present at the pre-lab meeting. More information concerning pre-lab meetings is given separately.

4. The team will carry out the experiment during the scheduled lab session. All team members must be present at the lab session. All experimental data will be recorded in a “Blue Book” examination book using appropriate laboratory notebook procedure (see below). The lab notebook will be handed in with the final report. A portion of the final report’s grade will be assigned to the lab notebook based on neatness, thoroughness, and adherence to proper lab notebook procedure.

5. Any time a meeting of the team takes place, the team leader for that experiment should take notes on who attended, what was discussed and what was assigned to individual members of the team. A brief summary of this information must be e-mailed to Prof. T. Kofke by the due date of the final report.

6. For the first two experiments, a final report written in business memo format will be written by the team as a group. The requirements for the memo format

* New for Spring 2005
will be described separately. The report is due **two weeks** from the scheduled lab session.

7. For the third experiment this semester, the team will give a 15-minute PowerPoint™ presentation. The preparation of the presentation will be a team effort; however, the team may choose one person to give the presentation. At the time of the presentation, a copy of the PowerPoint slides must be turned in along with sample calculations, tabulated data, and the laboratory notebook. More details about this presentation will be given in class.